

Laboratory and Magnetic Stirrers

GENTLE POWERHOUSES



Don't compromise

Heidolph Premium laboratory equipment stands for reliability, precision, and efficiency. Your demand drives us to provide the fastest service, individual support, and quality without compromise. So that you can keep your head clear to successfully drive forward the research work for your company, organization or institution. Briefly: "research made easy".

That's why "Made in Germany" is much more than a marketing strategy for us: It's part of our corporate philosophy.

Our location in Germany enables us to develop and manufacture reliable laboratory equipment for years of continuous use with an average service life of more than 10 years. This makes your purchase a worthwhile investment in the future.

All Heidolph products are developed and manufactured at our Schwabach headquarters in Nuremberg; they go through a multi-stage quality checks. Powerful, maintenance free motors ensure constant results even in continuous operation, preventing downtime and costly repairs.

For us, premium service means: individual and application-related advice, competent and professional installation and instruction as well as the shortest possible repair and delivery times – simply "research made easy".

MADE IN GERMANY

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

Multi-stage quality checks in development and production

Premium service according to the "research made easy" principle Test our devices before you decide!

Schedule an appointment for an online demo

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Hei-TORQUE Overhead Stirrers

Powerful Stirring

Small and light, easy to use, high torque, precise setting options and an interface for documentation purposes:

The Hei-TORQUE series offers a suitable solution for any requirement.

Ideal for mixing larger quantities, high viscosities or also for applications in reactor systems. Available in different performance classes depending on the model.

DESIGN AWARD 2016



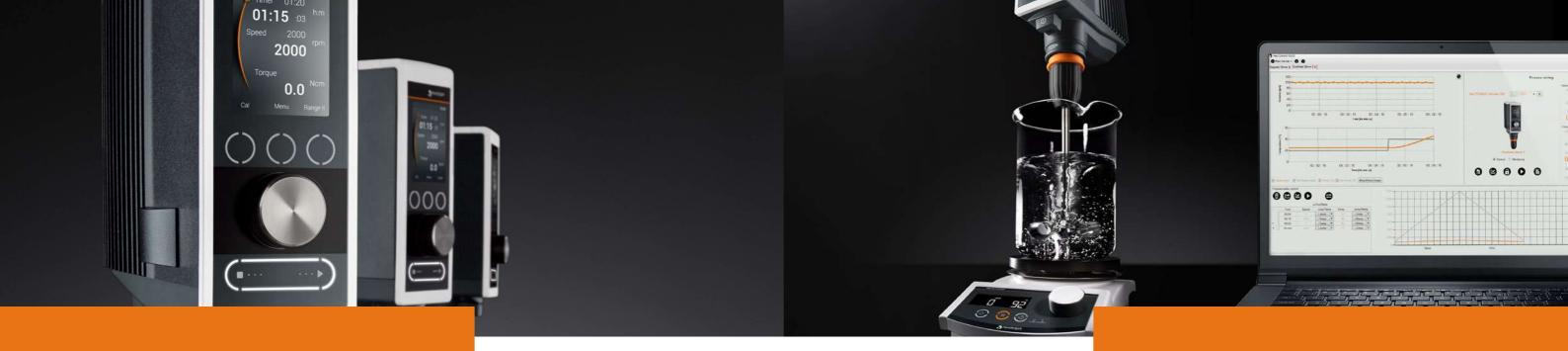


Leading Safety Standards





- The individually adjustable start-up reliably prevents splashing, as the speed is slowly ramped up to the selected speed
- The optional stirrer shaft guard protects against accidents due to the fast rotating blade
- The spark-free motors ensure leading safety standards
- To prevent overheating, the motor is switched off in case of continuous overload – important for unattended continuous use
- The safety-oriented start/stop touch function prevents unwanted switching on
- No liquid splashes with the adjustable speed limitation
- Accidental starting up during the tool change is prevented by the opened safety ring of the quick-chuck
- Three audible latching-in sounds confirm the maximum clamping force after tightening and thus the secure fit of the stirring tool



Superior Ease of Use

- The uniquely high torque achieves fast and excellent mixing results even when processing highly viscous media
- The speed is kept constant even when there are strong fluctuations in viscosity
- State-of-the-art motors achieve maximum performance at minimum noise level
- Searching for the chuck key is a thing of the past: With the quick-action chuck, the blades can be easily replaced with just one hand – without the need for tools
- Whether blades made of stainless steel, glass or with Teflon coating: The right solution is also available for special applications.
 To position the blade correctly at a height of your choice, the stirrer shaft can simply be routed through the housing
- With just one swift move at the optional Telescopic stand, the overhead stirrer can be repositioned
- Stirrer couplings, flexible shafts and seals to enable stirring under vacuum and pressure extend the range of applications
- Outstanding product design with glass display and touch elements for intuitive control and durability, awarded the iF DESIGN AWARD
- The standard RS 232 and USB ports of the Hei-TORQUE Ultimate models enable the process sequence to be documented precisely.
 The free Hei-Control Software is included in the scope of delivery











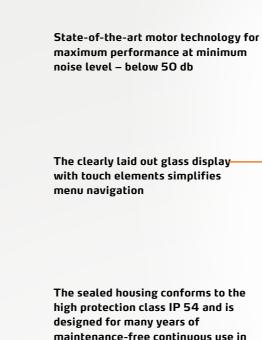
- Reduced Cost of Ownership
- The sealed housing reliably protects the overhead stirrer from corrosion. On average, this increases the operational lifespan to more than 10 years and reduces maintenance and repair costs
- The high torque ensures top mixing results and also reduces the process times considerably
- Maintenance-free motors avoid downtimes and repair costs
- Special stirring tools, which even mix large quantities of gel, shorten the process times and improve the results
- The sealed glass user interface increases the leak tightness of the housing thus protecting electronics and mechanics
- No unnecessary extra costs: Free software is included with all Hei-TORQUE Ultimate models
- All devices are suitable for continuous operation without time restrictions – even when handling highest viscosity
- Achieve first-class results even in polymer research: highperformance motors are the distinguishing feature of these overhead stirrers

MADE IN **GERMANY**

All Benefits at a Glance

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

Powerful Stirring



maintenance-free continuous use in aggressive environments

With the quick-action chuck, the blades can be easily replaced with just one hand - without the need for tools

With free Hei-Control software for

all Hei-TORQUE Ultimate models for

reliable automation of all processes.

The overtemperature protection reliably prevents accidents caused by overheating - especially in continuous operation for an unlimited time Increased safety due to individual performance monitoring: start-up intensity, maximum rotation speed

> The sealed glass user interface increases the leak tightness of the housing thus protecting electronics and mechanics

and maximum torque are adjustable

Safety-oriented start / stop touch function prevents unwanted switching on

USB and RS 232 interface for process documentation and reproducibility

VISCO JET® blades mix media that cannot be mixed with conventional technology - complete circulation is even reached when processing gels

The Hei-TORQUE Series

Small and light, easy to use, high torque, precise setting options and an interface for documentation purposes: The Hei-TORQUE series offers a suitable solution for any requirement.



The lightweight choice for big tasks

All Hei-TORQUE models are compatible with the ViSCO JET® system.

Hei-TORQUE Core

The lightweight choice for big tasks

The exceptionally light and compact design allows for integration in closed systems, such as fume hoods, reactors, or production systems. Suitable for up to 25 l of low- to medium-viscosity media.

Compact design:

- Light weight at 2,300 g
- Dimensions (w/d/h): 70×195×282 mm

Easy to use:

- Control knob for rotation speed, pushing starts or stops the function
- Timer function
- "Max" button for short-term operation at maximum speed

Performance features

- Torque up to 40 Ncm
- Speed range up to 2,000 rpm
- Viscosity up to 10,000 mPas

The large diameter of the chuck (10.5 mm) also enables the use of large blades and VISCO JET® stirring tools. This facilitates a wide variety of applications, such as homogenizing, dispersing, the dissolving of agglomerates, and many more.

In reactor systems, the torque can alternatively also be deflected via the flexible shaft, so that the overhead stirrer can be placed next to the actual set-up.



Hei-TORQUE Expert

The reliable overhead stirrer for standard applications

The Hei-TORQUE Expert models are characterized by their clear display and very easy operation. They perform stirring tasks quickly and reliably.

Clearly structured operation:

- Display of torque tendency to detect changes in viscosity
- Modern digital 2.4" display for intuitive operation
- Safety-oriented start / stop touch function to prevent unwanted switching on

Forceful stirring in three performance classes:

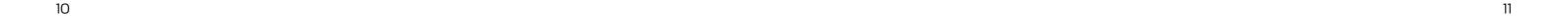
- 100 Ncm for up to 60,000 mPas 200 Ncm for up to 100,000 mPas 400 Ncm for up to 250,000 mPas (2-gear stage design)
- Constant speed even under changing load
- Speed range up to 2,000 rpm
- Minimum noise level at maximum power

The sealed glass user interface increases the leak tightness of the housing thus protecting electronics and mechanics.





Model		P/N
Hei-TORQUE Expert 100	100 Ncm	501-61010-00
Hei-TORQUE Expert 200	200 Ncm	501-62010-00
Hei-TORQUE Expert 400	400 Ncm	501-64010-00



Hei-TORQUE Ultimate

The professional overhead stirrer for demanding applications

The Hei-TORQUE Ultimate models are particularly suitable for challenging applications that have to be reproducible and documentable. The huge number of additional features allows for perfect adjustment of the stirring operation to your individual application.



 Model
 P/N

 Hei-TORQUE Ultimate 100
 100 Ncm
 501-61020-00

 Hei-TORQUE Ultimate 200
 200 Ncm
 501-62020-00

 Hei-TORQUE Ultimate 400
 400 Ncm
 501-64020-00

Optional: Standard RS 232 cable



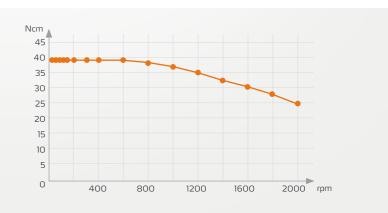
The Hei-Control software is included in the scope of supply and is available here to download for free

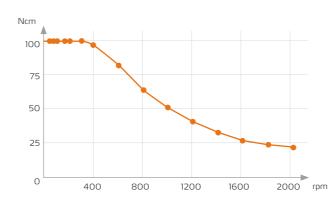
Performance Ranges

40 Ncm

Power dynamics of the models:

Hei-TORQUE Core





100 Ncm

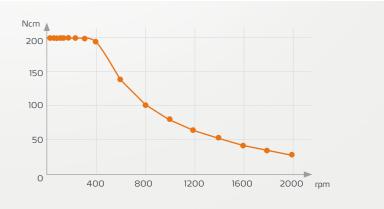
Power dynamics of the models:

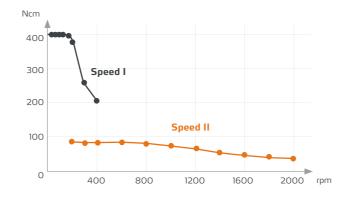
- Hei-TORQUE Expert 100
- Hei-TORQUE Ultimate 100

200 Ncm

Power dynamics of the models:

- Hei-TORQUE Expert 200
- Hei-TORQUE Ultimate 200





400 Ncm

Power dynamics of the models:

- Hei-TORQUE Expert 400
- Hei-TORQUE Ultimate 400

A 2-gear stage design ensures a high torque over the entire speed range.

Technical Specifications

Overhead stirrer

Model	Hei-TORQUE Core	Hei-TORQUE Expert 100	Hei-TORQUE Expert 200	Hei-TORQUE Expert 400	Hei-TORQUE Ultimate 100	Hei-TORQUE Ultimate 200	Hei-TORQUE Ultimate 400
Power rating Motor input / output	105/75 W	90/50 W	120/80 W	150/90 W	90/50 W	120/80 W	150/90 W
Number of gear stages	1	1	1	2	1	1	2
Speed range	20-2.000 rpm	10-2.000 rpm	10–2.000 rpm	10-400 rpm (gear stage I) 20-2,000 rpm (gear stage II)	10–2.000 rpm	10-2.000 rpm	10-400 rpm (gear stage I) 20-2,000 rpm (gear stage II)
change of rotation direction	-	-	-	-	yes	yes	
otation speed indicator	digital						
ontrol panel	monochrome 2.4"	monochrome 2.4"	monochrome 2.4"	monochrome 2.4"	color 3.2"	color 3.2"	color 3.2"
peed control	electronic						
Nax. torque	40 Ncm*	100 Ncm	200 Ncm	400 Ncm	100 Ncm	200 Ncm	400 Ncm
orque indicator	Symbol	Symbol	Symbol	Symbol	Value	Value	Value
Behavior in case of overload	Automatic cut-out with display	Automatic cut-out with display	Automatic cut-out with display	Automatic cut-out with display	Automatic cut-out with display	Automatic cut-out with display	Automatic cut-out with display
Notor protection	Temperature monitoring software						
Max. viscosity	10,000 mPas	60,000 mPas	100,000 mPas	250,000 mPas	60,000 mPas	100,000 mPas	250,000 mPas
Max. volume H₂O	25L	50 L	50 L	100 L	50L	50 L	100 L
Analog/digital nterface	-	-	-	-	USB and RS 232	USB and RS 232	USB and RS 232
Permissible duty cycle	Continuous operation						
Counter/timer	yes	-	-	-	yes	yes	yes
Stirrer shaft Ø max.	10.5 mm						
Dimensions device w/d/h	70×195×282 mm**	86×247×340 mm**	86×247×340 mm**	93×247×340 mm**	86×247×340 mm**	86×247×340 mm	93×247×340 mm**
Dimensions support rod Ø×w	13×160 mm						
Veight	2.3 kg	4.4 kg	5.1 kg	5.3 kg	4.4 kg	5.1 kg	5.3 kg
Permissible Permissible ambient conditions	5–31°C at 80% rel. humidity, 32–40°C linearly reducing up to max. 50% rel. humidity	5–31°C at 80% rel. humidity, 32–40°C linearly reducing up to max. 50% rel. humidity	5–31°C at 80% rel. humidity, 32–40°C linearly reducing up to max. 50% rel. humidity	5–31°C at 80% rel. humidity, 32–40°C linearly reducing up to max. 50% rel. humidity	5–31°C at 80% rel. humidity, 32–40°C linearly reducing up to max. 50% rel. humidity	5–31°C at 80% rel. humidity, 32–40°C linearly reducing up to max. 50% rel. humidity	5–31°C at 80% rel. humidity, 32–40°C linearly reducing up to max. 50% rel. humidity
Degree of protection EN 60529	IP 42	IP 54	IP 54	IP 54	IP 54		IP 54

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

^{* 65} Ncm for short-term overload operation
** Height from upper edge of device to lower edge of chuck with jaws completely retracted

Blade / Half-Moon Impellers

When using a laboratory stirrer, the correct choice of impeller is decisive. They differ in the type of flow that they cause in the medium, in the speed-dependent operating range and in their execution for different viscosities.

The following applies to stirring tools: Optimum mixing results are achieved when the vessel size and positioning of the impeller are perfectly matched.

- The primary flow direction is tangential
- The impellers are particularly suitable for medium to high-speed range applications
- For mixing tasks with low to medium viscosity

To the selection tool for stirring tools

The right impeller for every application



Homogenizing, emulsifying, suspending



Propeller-Type or Blade Impellers

Stirring of viscous media







BR 10 Cross-blade impeller

Blade size	Material	Length	Ø stirrer shaft	Speed	P/N
50 × 12 mm	Stainless steel (V4A)	400 mm	8 mm	2,000 rpm	509-10000-00



BR 11 Straight-blade impeller

Blade size	Material	Length	Ø stirrer shaft	Speed	P/N
50 × 12 mm	Stainless steel (V4A)	400 mm	8 mm	2,000 rpm	509-11000-00



BR 12 Pivoting-blade impeller

With tilting blades for narrow neck vessels

Blade size	Material	Length	Ø stirrer shaft	Speed	P/N
60 × 15 mm	Stainless steel (V4A)	400 mm	8 mm	2,000 rpm	509-12000-00



BR 13 Square-blade impeller

Didue Size	Marenar	Length	b stiller sliait	Speed	F/IV
70 × 70 mm	Stainless steel (V4A)	450 mm	8 mm	800 rpm	509-13000-00

O stierer shaft Sacad



BR 14 Collapsible-blade impeller

With collapsible blades for narrow neck vessels

Blade size	Material	Length	Ø stirrer shaft	Speed	P/N
90 × 10 mm	Stainless steel (V4A)	400 mm	8 mm	800 rnm	509-14000-00



HR 18 Half-moon impeller

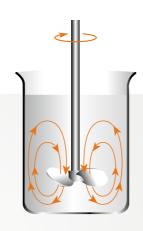
Has tiltable blades for narrow-necked vessels, is ideal for stirring in round-bottom flasks

Blade size	Material	Length	Ø stirrer shaft	Speed	P/N
65 × 18 × 3 mm	PTFE	350 mm	8 mm	800 rpm	509-18000-10
		Clamaian range			

6.5 mm

Pitched-Blade Impellers

- The primary flow direction is axial
- These blades are particularly recommended for applications which require an average to high speed range
- For mixing tasks with low to high viscosity
- Excellent mixing properties for homogenizing and suspending



Radial-Flow Impellers



- These blades are particularly recommended for applications which require an average to high speed range
- For mixing tasks with low to medium viscosity
- Ideal for gassing of liquids and for emulsifying





PR 30 Pitched-blade impeller

Ø propeller	Material	Length	Ø stirrer shaft	max. rpm	P/N
58 mm	Stainless steel (V4A)	400 mm	8 mm	2,000 rpm	509-30000-00



PR 31 Ringed pitched-blade impeller

Ø propeller	Material	Length	Ø stirrer shaft	max. rpm	P/N
33 mm	Stainless steel (V4A)	400 mm	8 mm	2,000 rpm	509-31000-00



PR 32 Ringed pitched-blade impeller

Ø propeller	Material	Length	Ø stirrer shaft	max. rpm	P/N
45 mm	Stainless steel (V4A)	400 mm	8 mm	2,000 rpm	509-32000-00



PR 33 Ringed pitched-blade impeller

Ø propeller	Material	Length	Ø stirrer shaft	max. rpm	P/N
66 mm	Stainless steel (V4A)	400 mm	8 mm	800 rpm	509-33000-00



PR 39 Pitched-blade impeller

Perfect mixing results even at high viscosity

Ø propeller	Material	Length	Ø stirrer shaft	max. rpm	P/N
75 mm	PTFE	350 mm	8 mm	800 rpm	509-39000-10



TR 20 Radial-flow impeller

Ø turbine	Material	Length	Ø stirrer shaft	Speed	P/N
28 mm	Stainless steel (V4A)	400 mm	8 mm	2,000 rpm	509-20000-00

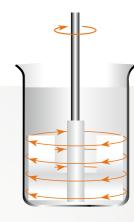


TR 21 Radial-flow impeller

Ø turbine	Material	Length	Ø stirrer shaft	Speed	P/N
50 mm	Stainless steel (V4A)	400 mm	8 mm	2,000 rpm	509-21000-00

Anchor-Type Impeller

- The primary flow direction is tangential
- This blade is particularly recommended for applications which require a low to average speed range
- Axial primary flow
- For mixing tasks with high viscosity





AR 19 Anchor-type impeller

ade size	Material	Length	Ø stirrer shaft	Speed	P/N
0 × 40 × 5 mm	PTFE	350 mm	8 mm	800 rpm	509-19000-10

VISCO JET® Stirring System

The all-rounder for thick and thin

The VISCO JET® stirring system from VISCO JET Rührsysteme GmbH is based on the so-called cone principle. Turbulences are generated by the dynamic pressure at the displacer inlet and by the accelerated flow within the displacer (so-called nozzle effect). These turbulences collide during the circular movement of the stirring tool and lead to the revolutionary mixing movement.

- Reduced process times with clearly improved mixing results
- The stirring principle achieves complete degassing of the medium – foaming and air ingress are effectively prevented
- Even with media that cannot be mixed with conventional blades, complete circulation is achieved
- Even at low speeds, the special shape triggers a unique flow with its own inherent dynamics
- A system for virtually any stirring task involving low to high viscosity media
- Also compatible with the compact Hei-TORQUE Core, as it also features a large-diameter chuck (10 mm)





Ranges of application

- Beverage production, dairy products
- Food, sugar and confectionery production
- Chemistry, petrochemistry, ceramics, water treatment
- Pharmaceuticals, cosmetics production
- Paint and varnish production
- and many more

VISCO JET® Stirrers



VISCO JET® – 60 mm Ø

Material	Length	Ø stirrer shaft	Ø vessel	Speed	P/N
Stainless steel (V4A)	500 mm	10 mm	80-150 mm	200-800 rpm	509-16060-00



VISCO JET $^{\rm B}$ – 80 mm Ø

Material	Length	Ø stirrer shaft	Ø vessel	Speed	P/N
Stainless steel (V4A)	500 mm	10 mm	115-200 mm	200-700 rpm	509-16080-00



VISCO JET® – 120 mm Ø

Material	Length	Ø stirrer shaft	Ø vessel	Speed	P/N
Stainless steel (V4A)	500 mm	10 mm	170-300 mm	120–500 rpm	509-16120-00



VISCO JET® - 80 mm Ø (POM)

Material	Length	Ø stirrer shaft	Ø vessel	Speed	P/N
POM*	500 mm	10 mm	115-200 mm	200-700 rpm	509-16081-00



VISCO JET® – 120 mm Ø (POM)

Material	Length	Ø stirrer shaft	Ø vessel	Speed	P/N
POM*	500 mm	10 mm	170-300 mm	120-500 rnm	509-16121-00

^{*} Stirring tool: plastic (POM), hub: brass, shaft: polyamide-coated



VISCO JET® CRACK – 80 mm Ø

Material	Length	Ø stirrer shaft	Ø vessel	Speed	P/N
Stainless steel (V4A)	500 mm	10 mm	115-200 mm	200-700 rpm	509-17080-00



VISCO JET® CRACK - 120 mm Ø

Material	Length	Ø stirrer shaft	Ø vessel	Speed	P/N
Stainless steel (V4A)	500 mm	10 mm	170-300 mm	120-500 rpm	509-17120-00

One stirrer shaft is always included in the scope of delivery.

Further Accessories



Universal stand S2

Ø stand tube 25 mm, height 700 mm, foot spacing 370 mm, weight 5.8 kg

P/N 570-12000-00



Clamp

for universal stand S2, stand S2 XXL and telescopic stand, Ø 13 – 32 mm

P/N 570-22000-00



Shaft guard

For Hei-TORQUE, made of PMMA, incl. adapter set, height-adjustable from approx. 187 – 312 mm

P/N 509-08100-00

Adapter set (not illustrated)

P/N 11-002-501-02



Stand S2 XXL

Ø stand tube 25 mm, height 1,000 mm foot spacing 370 mm, weight 6.0 kg

P/N 570-12200-00



Flex coupling

With clamping spigot, for stirrer shafts with Ø 10 mm

P/N 509-03000-00



Flexible shaft

incl. chuck, 1,300 mm overall length

P/N509-07000-00

For fixing the stirrer shaft guard on the Hei-TORQUE overhead stirrer

Packages

Hei-TORQUE

To offer a perfect complete solution for powerful stirring and easy operation in the laboratory, the Hei-TORQUE series was expanded by various product packages.

Each Hei-TORQUE package contains a telescopic stand and a corresponding clamp to ensure ideal use on laboratory benches.



HEI-TORQUE SILVER PACKAGE

- Hei-TORQUE Expert 100
- Telescopic stand
- Clamp

P/N 501-61019-00



RS 232 cable

glass stirrer shafts

P/N 509-09000-00

Telescopic stand

Ø stand tube 32 mm,

foot spacing 370 mm,

P/N 570-12100-00

Stirrer guide (NS 29/32)

For stirrer shafts with Ø 8 mm,

ground PTFE core; suitable for vacuum,

perfect guide for stainless steel and

weight 7.7 kg

height 725 to 1,025 mm,

9-pin, for Hei-PLATE Mix 'n' Heat Ultimate and Hei-TORQUE Ultimate

P/N 14-007-040-72

HEI-TORQUE GOLD 1 PACKAGE

- Hei-TORQUE Ultimate 100
- Telescopic stand
- Clamp

P/N 501-61029-00

HEI-TORQUE GOLD 2 PACKAGE

- Hei-TORQUE Ultimate 200
- Telescopic stand
- Clamp

P/N 501-62029-00

HEI-TORQUE PLATINUM PACKAGE

- Hei-TORQUE Ultimate 400
- Telescopic stand
- Clamp

P/N 501-64029-00

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.



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



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



MADE IN GERMANY

All Benefits at a Glance

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

Safe Heating and Mixing

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

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

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 housing 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.



- 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

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
- 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

Magnetic stirrer with heating function

Hei-PLATE Mix 'n' Heat Core

For easy and safe entry level



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



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

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



Technical Specifications

Magnetic stirrers

Model	Hei-Mix S	Hei-PLATE Mix 20 L
Speed range	0–2.200 rpm	100–1.400 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 H₂O	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	126×140×80 mm	168×299×101 mm
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		- II
Protection class IEC 61140		I
Degree of protection IEC 60529	IP 21	

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

Technical Specifications

Magnetic stirrers with heating function

100–1.400 rpm	100–1.400 rpm	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°C	±5°C	±5°C
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	
168×299×101 mm	168×299×101 mm	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	
II	II	
I	ī	ı
IP 42	IP 42	

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

Accessories for Magnetic Stirrers

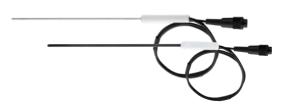


Heating bath¹

PTFE coated PTFE coated PTFE coated







Adapter plate

with Ø 135 mm models P/N 505-99000-01

Pt 1000 temperature sensor For Hei-PLATE Mix 'n' Heat Core+

For use of accessories for Ø 145 mm heating plate

V4A 509-67910-00 Glass-coated 509-67920-00



Heating bath for oil¹

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



Pt 1000 clamping system

With support rod and clamping device with cable routing

P/N 509-63100-00



Concave block adapter¹

For 1 l round-bottom flasks 504-94000-00



For Hei-Connect 509-63200-00 509-63300-00 For Hei-Plate Mix'n'Heat models



Magnetic stirring bars

PTFE coated

cylindrical

25, 40, 50 mm	I piece each	509-56000-00
Cross shape 16.5 mm For 25–50 ml flask	Pack of 20	509-58500-00
Evaluation kit for round-bottom flacross-shaped 10 and 16.5 mm, elliptical 25 mm,	esk	
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



Hei-Con electronic contact thermometer

For Hei-PLATE Mix 'n' Heat Core+

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



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



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 515-31000-00 up to 220 °C 569-00600-00

¹ For magnetic stirrers with plate Ø 145 mm.

An adapter plate is available for models with \emptyset 135 mm.

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 water-cooled 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







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.

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

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

Heat-On Attachments











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	505-80069-00
	11	505-80071-00
	21	505-80073-00
	31	505-80075-00
	41	505-80078-00
	5 l	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

505-81400-00 for Hei-Connect for Hei-PLATE Mix 'n' Heat Core/Core+ 509-63400-00

Multi-Well inserts and clamping system

Heat-On insert	10 ml	505-80061-00
	25 ml	505-80062-00
	50 ml	505-80063-00
	100 ml	505-80064-00
	150 ml	505-80065-00
Heat-On Multi-Well holder		505-80060-00
Heat-On safety lifting handles		505-80077-00

Safety covers

For Heat-On Multi-Well holder	505-80080-00
For Heat-On 200–300-ml Block	505-80081-00
For Heat-On 500 ml Block	505-80082-00
For Heat-On 1 l Block	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.



i tosk size	capacity	temperature	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

300 °C

75.5 min

3000 ml

5000 ml

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

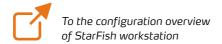
- Numerous attachments transform the magnetic stirrer into a multiple, efficiency-increasing reaction system for a maximum of 45 samples simultaneously
- Versatile all-rounder
- Countless possibilities: From simple heating and stirring tasks to syntheses through to concentrations and extractions with vacuum and inert gas
- No need to purchase new glass components. Simply work with the existing round-bottom flasks and combine them with the matching StarFish
- Mono and PolyBlocks offer combination options for up to five individual PolyBlocks in different sizes or a MonoBlock with uniform insert sizes



for up to five individual PolyBlocks in different sizes or a MonoBlock with uniform insert sizes.

StarFish accessories - see page 46.

StarFish Accessories







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
	20×21mm 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



enables the cooler to slip through.

Universal 5-way clamp

Velcro® strap.

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

The StarFish clamp enables different size glassware sets

to be fixed and is optionally available with a silicone or

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



(Prodeys

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 505-81030-0



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
	3×21ml	505-80026-00
	7×17 ml	505-80027-00
	9×15 ml	505-80028-00
	9×12 ml	505-80029-00



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

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

Packages

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

P/N 506-22151-0

Ø 145 mm P/N 506-21151-00





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

P/N 506-21156-00

HEI-PLATE PACKAGE SILVER 2

- 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
- 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

- 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 CONNECT MINI

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

P/N 505-40732-00

Best Service

For best results

Purchasing Heidolph Premium laboratory equipment is a decision for the leading quality, service and safety standards. After process optimization and calibration procedure, it is also possible to ensure compliance with standards once defined and reliably reproducible results.

To this end, Heidolph has different service packages set up in accordance with EN 13306:2018 with annual preventive service measures and extremely short response times for permanently reproducible processes. Service agreements offer the opportunity to decide for yourself which services help to optimize and secure processes.

Before the purchase



Initial application counseling for all customers & interested parties

We address the individual requirements of your project, check the theoretical feasibility and find the best equipment combination for optimal results.



First application testing for all customers & interested parties

To test the theoretical feasibility, we perform a test with your original product in our laboratory. You will receive initial results on the process speed and quality of the sample.



Advanced application testing optional and individual

We offer additional tests in our laboratories, tailored to your requirements and given parameters. The costs are billed by the hour.



External analyses for verification

If you do not have the facilities for analyses, we can commission an external laboratory to do so. We determine viscosity, residual moisture and composition of your sample.

After the purchase



Training Work successfully from day 1

After receiving your laboratory device, we support you with the commissioning and ensure optimal handling of the devices in individual application training sessions.



Optimal processes Maximum performance

Our application specialists adjust your installed new devices in an optimal and application-specific manner. We are also happy to help you to increase the performance of processes that are already running.



Free

Subject to a charge



Detailed information and other services also available online on www.heidolph.com

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Heidolph Instruments GmbH & Co. KG

Walpersdorfer Str. 12 • 91126 Schwabach

Phone: +49 9122 9920-67 Fax: +49 9122 9920-65 Email: sales@heidolph.de

