

Safe

Heating and Mixing



Leading Safety Standards

Superior Ease of Use

Reduced Cost of Ownership



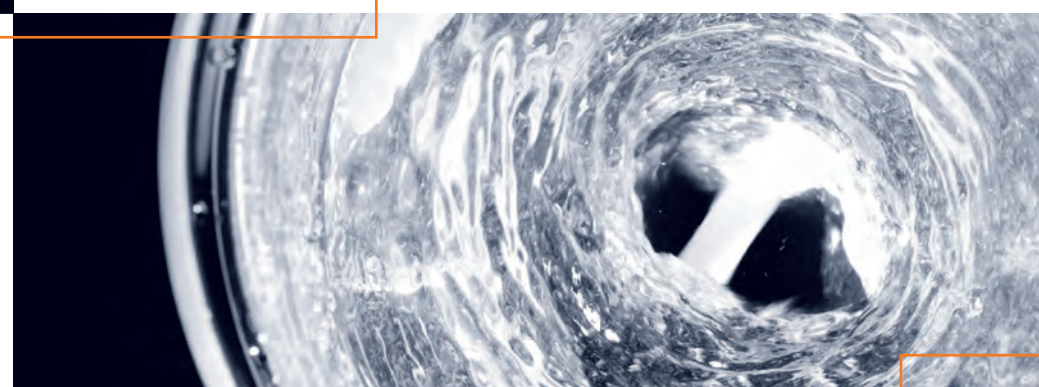
Have you ever heard of hotplates with fast heat-up times and chemical resistance?

Safe Heating and Mixing

The unique Kera-Disk® heating plate of aluminum provides fast heating times, and the wafer-thin ceramic coating makes the heating plate both chemically and scratch resistant!

Leading Safety Standards

- To prevent accidents or laboratory fires, all magnetic stirrers feature an **overtemperature circuit** which switches off the hotplate if an overtemperature situation occurs
- In combination with Heat-On attachments you can convert your lab into a **"safety zone"**
- Even if the stirrer is exposed to the highest temperatures, damage is categorically ruled out – all models come with a **fire-resistant aluminum die-cast housing**
- Hotplate **residual heat indicator** in the digital display of the MR Hei-End is illuminated when unit is turned off and hotplate temperature is above 50 °C to warn operator of potential burn hazards
- For your safety, the **unit will power off** in case of a short-circuit, a damage to the temperature sensor, a motor failure or other incidences during operation
- To protect you from splashes and scalding from bath media, rotation speed **ramps up slowly** until unit has reached the pre-programmed speed
- In case the heating function fails, stirring will not be discontinued to **avoid thermal damage** to your sample
- A separate on/off switch for heating **prevents unintentional heat-up**. If heating is switched on, the on/off button is illuminated for visual control





Reduced Cost of Ownership

- **Reduce your process times!** The extended heating capacity of 800 W reduces your heat-up time by 35 % compared to other units at 600 W
- The design and features give an **increased lifespan of 10 years** along with significantly **reduced maintenance and repair costs**
- The sealed housing protects the electronics and the non-maintenance of sparkless motors **reduce down times**

Superior Ease of Use

- All units with digital display allow for easy setting and monitoring values on the **illuminated readout**
- You can even **work with dry ice** – a robust thermal insulation prevents corrosion inside the housing by preventing condensate from collecting and dripping on any electronic components
- An optional software program is available for the MR Hei-End to aid you in automating your process, and **saves all data in electronic files**
- The unique Kera-Disk® coating is extremely chemical-resistant and scratch-proof and can be **cleaned easily** if solvents, oil or other contaminations are spilled on the plate
- The strong magnetic field allows for **easy stirring** of even higher **viscosity media**



➤ Kera-Disk® top plate

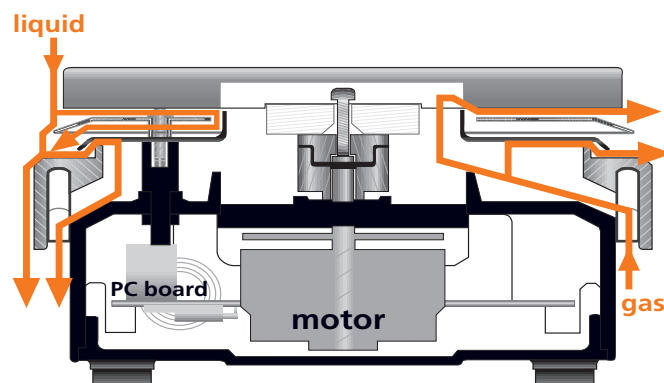
With Kera-Disk® material coating, fast heat-up times and chemical resistance!



- Glass ceramic top plates offer the benefits of chemical-resistance, scratch-proof but produce longer heat-up times
- Aluminum top plates allow for immediate heat transfer but are not chemical-resistant or scratch-proof
- Kera-Disk® top plates take the best of two worlds: The aluminum top plate allows for immediate heat transfer for quick heat-up times and a thin layer of ceramic coating makes the top plates chemical-resistant and scratch-proof

➤ Sealed housing

The sealed housing of the MR series guarantees extended performance life and reduced maintenance!



The hermetically-sealed housing that protects the PC board and the motor is marked in black. The way a liquid would take flowing down from the hotplate is marked in orange. As one can see, even if the liquid reaches the heat shields, it cannot ingress to the PC board and the

motor but is drained off. The other line marked in orange shows that gas can neither ingress to the PC board nor to the motor. The apparent gap is due to temperature insulation. Because of that gap the temperature inside the magnetic stirrer stays substantially lower, which

significantly increases the durability of the magnetic stirrer. For protection against liquid and gas, the heating elements are completely embedded in ceramic.

Safe Heating and Mixing



Leading Safety Standards

Superior Ease of Use

Reduced Cost of Ownership

The average operational **lifespan of 10 years** is backed by a **3 year warranty** and makes your purchase a truly worthwhile investment.

The extended heating capacity of **800 W** **reduces heat-up times by 35 %** compared to other units at 600 W

Hermetically-sealed housing **protects all** mechanical and electronic components **from aggressive environments**

The chemically resistant KeraDisk® hot plate allows for **immediate heat transfer** resulting in quick heat-up times

In case the heating function fails, stirring will not be discontinued to **prevent bumping**

The temperature sensor consists of **two independent safety circuits** which switches off heating in case of any overtemperature situation

In case of a short-circuit, a damage or removal of the temperature sensor from the media, the **unit powers off completely**

Damage to the stirrer is categorically ruled out even if exposed to highest temperatures – all models come with **a fire-resistant aluminum die-cast housing**

A separate on/off button for heating **prevents unintentional heat-up** – the button is illuminated for visual control



➤ Magnetic Stirring Hotplates

Preferred use of the MR Series magnetic stirrers includes smooth to intense mixing and heating of low-viscosity fluids. Your first choice for decomposing organic and inorganic substances

- With a heating power of 800 W the hotplate reaches a maximum temperature of 300 °C in a significantly reduced time period
- Safety circuits avoid an overheat situation of your hotplate: if the temperature overshoots the heating will be powered off immediately
- The strong magnetic field allows for stirring even higher viscosity media or volumes of 20 liters of water with ease
- Speed is adjustable from 30 to 1,400 rpm at an accuracy of $\pm 1\%$ for gentle mixing



The StarFish system can convert your magnetic stirrer over to a time-saving multiple-reaction workstation



The Heat-On attachments are the industry's safest, fastest and most time-efficient method to heat and stir a sample in a round-bottom flask



➤ MR Hei-Standard

Model for standard applications without display

The MR Hei-Standard includes all leading safety standards and features for superior ease of use and reduced cost of ownership, plus:

- For your protection an independent safety circuit will switch off heating if hotplate temperature exceeds 25 °C over set temperature
- Upgrade this magnetic stirrer with the optional digital thermometer EKT Hei-Con that provides precise control of temperature to give you temperature overshoot protection and reproducible results
- A separate on/off switch for heating prevents an unintentional heat-up. If heating is switched on the on/off button is illuminated for visual control
- Analog knobs allow for convenient speed setting from 100 to 1,400 rpm at an accuracy of 2 % and temperature setting up to 300 °C



MR Hei-Standard
P/N 505-20000-00

➤ MR Hei-Tec

Model for higher requirements and reproducible results

The MR Hei-Tec includes all leading safety standards and features for superior ease of use and reduced cost of ownership, plus:

- This unit features a digital display and allows for easy setting and monitoring of values in the illuminated readout
- For your protection an independent safety circuit will switch off heating if hotplate temperature exceeds 25 °C over set temperature
- Digital speed setting from 100 to 1,400 rpm at an accuracy of 2 % and temperature setting up to 300 °C
- A separate on/off switch for heating prevents an unintentional heat-up. If heating is switched on the on/off button is illuminated for visual control
- An illuminated button indicates clearly if the stirring mode is activated
- Upgrade this magnetic stirrer with the optional Pt 1000 temperature sensor for precise temperature control, overshoot protection and reproducible results



MR Hei-Tec
P/N 505-30000-00

➤ MR Hei-End

Model for highest safety

The MR Hei-End includes all leading safety standards and features for superior ease of use and reduced cost of ownership, plus:

- An independent safety circuit switches off heating at an operator-programmed temperature value above your set temperature
- An additional operational safety step is required to change parameters which prevents unwanted changes to the actual setting
- The digital display allows for easy setting and monitoring of values on the illuminated readout. Speed setting from 30 to 1,400 rpm at an accuracy of 1% and temperature setting up to 300 °C
- Hotplate residual heat indicator in the digital display illuminates when unit is turned off and hotplate temperature is above 50 °C to prevent accidental operator injury
- To protect your sample from overheating a safety circuit switches off heating if the temperature sensor is not immersed in your media vessel
- A separate on/off switch for heating prevents an unintentional heat-up. If heating is switched on the on/off button is illuminated for visual control
- Upgrade this magnetic stirrer with the optional Pt 1000 temperature sensor for precise temperature control, overshoot protection and reproducible results



MR Hei-End
P/N 505-50000-00

Software Hei-PC-Control

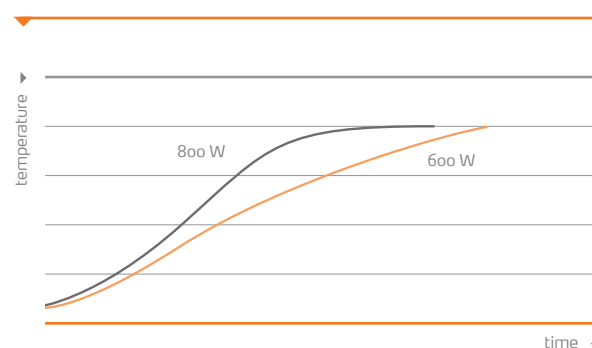
- Utilize the optional software to control and document the entire process
- Unit features a digital RS 232 and analog interface for connecting the optional software easily



Hei-PC-Control Software for MR Hei-End
P/N 592-50500-00

Heat-up graph

- Take advantage of a built-in PID controller that ensures maximum heat-up times while preventing an overtemperature situation of your sample



➤ MR Hei-Tec and MR Hei-End with Temperature Sensor Pt 1000



MR Hei-End with Pt 1000
P/N 505-50081-00

MR Hei-Tec with Pt 1000
P/N 505-30081-00

➤ Accessories



1-l Heating Bath
PTFE-coated
P/N 504-93100-00



2-l Heating Bath
PTFE-coated
P/N 504-92100-00



4-l Heating Bath
PTFE-coated
P/N 504-91100-00



1-l Heating Bath for Oil
Max. temperature 250 °C
P/N 504-93000-00



2-l Heating Bath for Oil
Max. temperature 250 °C
P/N 504-92000-00



4-l Heating Bath for Oil
Max. temperature 250 °C
P/N 504-91000-00



Concave Block Adaptor
For 1-l round-bottom flasks
P/N 504-94000-00



Temperature Sensor Holder
For EKT Hei-Con and Pt 1000
P/N 509-67000-00



Heating Bath Fluid 5 l
For up to 240 °C, mixable
with water
P/N 515-31000-00



**Pt 1000 Temperature Sensor
glass-coated**
For MR Hei-End and
MR Hei-Tec
P/N 509-67920-00



**Pt 1000 Temperature Sensor
stainless steel**
For MR Hei-End and
MR Hei-Tec
P/N 509-67910-00

Holding Device MR Hei
For safe fixation on lab
frames to gain extra lab space.
Comes with clamp as standard
P/N 509-96000-00



Support Rod
For temperature sensor
length: 425 mm, Ø 13 mm
material: stainless steel
P/N 509-81000-00



Silicone Protective Cover
Replaceable cover against
splashes and dripping water.
For MR Hei-Mix D,
MR Hei-Mix L, MR Hei-Tec
and MR Hei-End
P/N 23-07-06-05-59
For MR Hei-Standard
P/N 23-07-06-05-63

**Support Rod for
4-l Heating Bath/Heat-On**
P/N 509-97000-00

➤ Contact Thermometer EKT Hei-Con

Medium temperature control made easy

- For precise temperature control we recommend the optional EKT Hei-Con with the MR Hei-Standard
- Take advantage of the built-in Fuzzy-Logic controller that ensures the fastest heat-up while preventing an overtemperature situation
- Works efficiently in high temperature environment or under high humidity conditions
- Double-spaced digital display for convenient monitoring of the illuminated readout
- By the press of the MAX-button you can see the overtemperature at which the unit will power off for safety reasons
- All heating settings of the hotplate will be indicated on the EKT Hei-Con display
- To make troubleshooting easy a sensor feature signals any short-circuit or breakage on the display to inform operator of disruption
- Equipment automatically switches off heating if temperature sensor is not in contact with the media or is removed from the vessel unintentionally

Accessories

- Temperature sensors are available in two different options: stainless steel or glass-coated sensor for improved chemical resistance
- Please order stay bar and temperature sensor holder separately

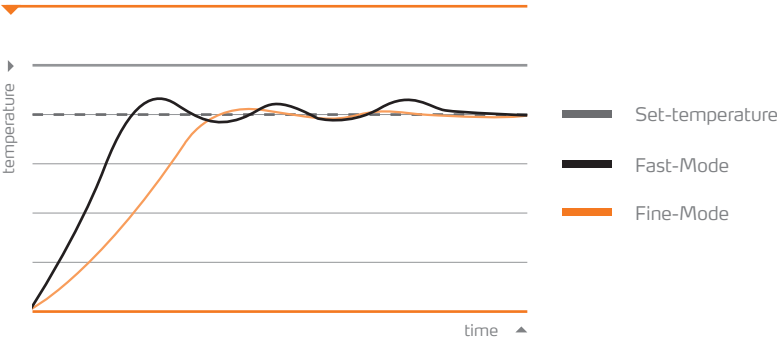


EKT Hei-Con
stainless steel sensor
P/N 509-88000-00

EKT Hei-Con G
glass coated sensor
P/N 509-88100-00

Select between these two modes:

- The time-saving **Fast-Mode** – guarantees **shortest heating-up times**
- The precise **Fine-Mode** – ideal to categorically **prevent an overtemperature situation**



Contact thermometer EKT Hei-Con		
Temperature range	(°C)	-50 to +300
Resolution	(°C)	1
Accuracy of measurement	(°C)	±1
Measuring cycle	(sec)	1.5
Control accuracy	(°C)	±0.5
Temperature sensor EKT Hei-Con		Pt 1000, V2A
Temperature sensor EKT Hei-Con G		Pt 1000, glass
Sensor length	(mm)	210
Cable length	(mm)	700
Min. immersion depth	(mm)	20
Ambient temperature range	(°C)	-5 to +60
Housing		Polyamide
Weight	(kg)	0.3
Dimension l x w x h	(mm)	54 x 22 x 126
Protection class	(DIN EN 60529)	IP 40
Power supply	(V)	8 – 15

➤ Heat-On Attachments

The Heat-On attachments are suitable to replace oil baths and heating mantles in your lab and reduces the risk of fire hazards. Moreover the attachments minimize the messy oil clear-ups that result from changing oil or removing flasks from an oil bath!



» For best results we recommend round-bottom flasks that comply with DIN EN ISO 4797 and DIN EN ISO 24450

- Our attachments are by far the safest, fastest and most efficient method for heating and mixing solutions in round-bottom flasks from 10 ml to 5 liter
- Heat-On fits precisely to every flask, thus ensuring maximum surface contact and fast heat transfer. Eliminates the mess from cleaning flasks after removal from an oil bath or hazardous spills when an oil bath slips off a stirring plate. As a result, oil as a heat transfer media is made redundant and your lab is a safer place with the Heat-On block system

Flask Volume	Volume of Water	Hotplate Temperature	Time to reach boiling
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
1,000 ml	600 ml	300 °C	21.1 min
2,000 ml	1,200 ml	300 °C	35.1 min
5,000 ml	3,000 ml	300 °C	75.5 min

Leading Safety Standards

- Prevents accidents, fires and contamination by completely banning all oil baths from your laboratory
- This unique design prevents glass breakage and protects you from spilled chemicals or solvents
- The high temperature range provides unlimited safety for applications up to 260 °C

Superior Ease of Use

- A unique PTFE-coating on the aluminum Heat-On body allows for superior chemical resistance and many years of service life
- Precise temperature control inside the vessel or on the heating block with a thermocouple port that provides actual block temperature back to your MR Series hotplate

Reduced Cost of Ownership

- Increase your daily work throughput significantly and reduce your overall process times by quick changing of Heat-On blocks
- Save energy costs – 1,000 ml of water heats up 66 % faster than conventional oil baths
- 150 ml of water boils in less than 11 minutes

➤ Heat-On Attachments

Heat-On Blocks

Each Heat-On Block is a stand-alone product that can be placed directly onto the stirring hotplate

- Heat-On 250-ml Block 505-80067-00
- Heat-On 250-ml Block with flask sidearm cutouts 505-80067-01
- Heat-On 500-ml Block 505-80069-00
- Heat-On 1-l Block 505-80071-00
- Heat-On 2-l Block 505-80073-00
- Heat-On 3-l Block 505-80075-00
- Heat-On 5-l Block 505-80076-00



Heat-On Accessories

- Support Rod for Heating Bath 4-l Retort Clamp Boss Head 509-97000-00
- 505-81075-00
- 570-31100-00
- Flask Stand & Clamp Kit (including Support Rod for Heating Bath 4-l, Retort Clamp, Boss Head) 505-81400-00
- Adaptor Plate for 135-mm hotplate 505-81000-01

PTFE 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



Multi-Well Holder and Inserts

This unique Multi-Well Holder is designed to hold either one or two inserts for flasks*. The inserts are available for 10-ml, 25-ml, 50-ml, 100-ml and 150-ml flasks. Flask inserts also feature cut-away sides for use with two or three-neck flasks and accept the optional safety lifting handles

* Only accepts one 150-ml insert



Insert for Multi-Well Holder

- Heat-On 10-ml Insert 505-80061-00
- Heat-On 25-ml Insert 505-80062-00
- Heat-On 50-ml Insert 505-80063-00
- Heat-On 100-ml Insert 505-80064-00
- Heat-On 150-ml Insert 505-80065-00



Heat-On Multi-Well Packages

Package Heat-On Multi-Well Basic Including 1x Multi-Well holder and 3 inserts for 25-ml, 50-ml and 100-ml flasks 505-81300-00

Package Heat-On Multi-Well Including 1x Multi-Well holder and 6 inserts, 2 each for 25-ml, 50-ml and 100-ml flasks 505-81200-00

➤ StarFish Workstations

Have you always been looking for a means to perform numerous reactions on a small footprint to significantly reduce space and process times?

With our attachments you can turn your magnetic stirrer into an efficiency-increasing reaction station for up to 45 samples simultaneously!

- Upgrade your magnetic stirrer to a product with multiple capabilities
- No special glassware purchase required - use your own glassware and individually choose the appropriate attachments for your applications
- Starting from simple heating and mixing tasks including chemical reactions, concentrations, extractions under vacuum and by providing protective gas
- StarFish workstations are ideal for soxhlet applications



Base Plate

Base Plate with optional handles fits securely onto the top plate maintaining good thermal contact with the heated surface

StarFish Base Plate (145 mm)
505-81000-00

StarFish Base Plate Handles (Pair)
505-81001-00



Numerous combinations

Cherry-pick from different PolyBlock options in different sizes or one MonoBlock system for identical round-bottom flasks or vials. In addition, you can choose from a large selection of inserts ranging from 5 ml to 150 ml

MonoBlocks

MonoBlocks are single blocks with multiple wells all of the same size and are ideal for experiments using the same vessel

MonoBlock for 5 x 250-ml Flasks 505-80001-00

Inserts for MonoBlock 5 x 250 ml

150-ml Flask Insert 505-80040-00
100-ml Flask Insert 505-80041-00
50-ml Flask Insert 505-80042-00
25-ml Flask Insert 505-80043-00
10-ml Flask Insert 505-80044-00
5-ml Flask Insert 505-80045-00

MonoBlock for 16 x 25-mm Tubes 505-80002-00
MonoBlock for 16 x 24-mm Tubes 505-80003-00
MonoBlock for 40 x 16-mm Tubes 505-80004-00
MonoBlock for 40 x 12-mm Tubes 505-80005-00

MonoBlock for 16 x 28-mm Vials 505-80006-00
MonoBlock for 20 x 21-mm Vials 505-80007-00
MonoBlock for 40 x 17-mm Vials 505-80008-00
MonoBlock for 40 x 15-mm Vials 505-80009-00
MonoBlock for 40 x 12-mm Vials 505-80010-00

PolyBlocks

PolyBlocks are smaller segments (5 per StarFish) which can be mixed to accommodate any combination of vessels; allowing the use of different vessel types and sizes at the same time

PolyBlock for 1 x 250-ml Flask 505-80020-00

PolyBlock for 3 x 25-mm Tubes 505-80021-00
PolyBlock for 3 x 24-mm Tubes 505-80022-00
PolyBlock for 9 x 16-mm Tubes 505-80023-00
PolyBlock for 9 x 12-mm Tubes 505-80024-00

PolyBlock for 3 x 28-mm Vials 505-80025-00
PolyBlock for 3 x 21-mm Vials 505-80026-00
PolyBlock for 7 x 17-mm Vials 505-80027-00
PolyBlock for 9 x 15-mm Vials 505-80028-00
PolyBlock for 9 x 12-mm Vials 505-80029-00



5-way Clamp
(Velcro)
P/N 505-81010-00



5-way Clamp
(Silicone strap and handle)
P/N 505-81020-00

Universal 5-way Clamps

The StarFish clamp allows you to hold glassware of virtually any size and comes with a choice of Silicone rubber or Velcro support straps

Each clamp features 5 telescopic arms which can be extended and locked in place to suit your needs. Using different straps on separate clamps allows you to grip the flask neck with the Silicone rubber strap for lifting, whilst the condenser above slides through the Velcro strap

Water-Distribution Manifold

Allows coolant from a single source to be evenly distributed to up to five condensers and then recombines the flow to one outlet pipe

Two manifolds are used in each set-up, one to distribute water to the condenser and one to collect coolant for recirculation or to drain. Connectors feature leak-proof shut-off valves



Gas/Vacuum Manifold
With connector
P/N 505-81040-00



Water Manifold
With connector
P/N 505-81030-00

Gas/Vacuum-Distribution Manifold

Allows gas or vacuum from a single source to be evenly distributed to up to five positions or vessels (does not control or regulate gas/vacuum flow). Connectors feature leak-proof shut-off valves

Replacement Self Adhesive Velcro Pads, 200 mm (pack of 10) 505-81070-00
Replacement Velcro Loop Strips, 200 mm (pack of 5) 505-81080-00
Replacement Silicone Straps, 200 mm (pack of 5) 505-81090-00
650 mm Support Rod 505-81050-00
650 mm Support Split Rod 505-81060-00

➤ Magnetic Stirrers without Heating

For gentle stirring in biology and microbiology applications

Hei-Mix D / Hei-Mix L

- Top plate is insulated from the motor and protects your heat-sensitive samples from any thermal damage
- To treat your sample gently and protect it from damage the rotation speed ramps up slowly until it has reached the pre-programmed speed
- Top plate diameter of 145 mm and a speed range from 100 to 1,400 rpm is ideal for quantities up to 20 liter
- Hermetically-sealed housing prevents corrosion and increases the service life of your unit
- The Hei-Mix D comes with a digital display for set and actual speed
- You can even work with dry ice - a robust thermal insulation prevents corrosion inside the housing which minimizes dripping of condensate on the electronic components
- These models come with a top plate material of finest-quality stainless steel

MR Hei-Mix D
P/N 505-01000-00

MR Hei-Mix L (without display)
P/N 505-00000-00



Hei-Mix S

- Stir quickly and efficiently with an extended speed range up to 2,200 rpm
- Space-saving unit for efficiently mixing sample sizes up to 5 liter. Small footprint of L 140 / W 126 / H 80 mm only, and the top plate comes with a diameter of 104 mm
- Ideal for titrations due to white-colored top plate
- Long-lasting polyamide housing and PVDF top plate material

MR Hei-Mix S
P/N 503-02000-00



➤ MR Plug & Play Packages



MR Plug & Play Hei-Standard

- This package includes:**
- Magnetic Stirrer MR Hei-Standard
 - EKT Hei-Con with temperature sensor (stainless steel)
 - Support Rod for EKT Hei-Con
 - Clamp for temperature sensor

P/N 505-20090-00



MR Plug & Play Multi-Well Hei-Tec

- This package includes:**
- Magnetic Stirrer MR Hei-Tec
 - Temperature sensor Pt 1000
 - Support Rod for Pt 1000
 - Clamp for temperature sensor
 - Heat-On Multi-Well system including Multi-Well Holder and the following inserts: 2 x 25 ml, 2 x 50 ml, 2 x 100 ml
 - 2 x Retort Clamp, 2 x Boss Head

P/N 505-81600-00

MR Plug & Play Multi-Well Hei-Standard

- This package includes:**
- Magnetic Stirrer MR Hei-Standard
 - EKT Hei-Con with temperature sensor (stainless steel)
 - Support Rod for EKT Hei-Con
 - Clamp for temperature sensor
 - Heat-On Multi-Well system including Multi-Well Holder and the following inserts: 2 x 25 ml, 2 x 50 ml, 2 x 100 ml
 - 2 x Retort Clamp, 2 x Boss Head

P/N 505-81500-00



MR Plug & Play Workstation

- This package includes:**
- Magnetic Stirrer MR Hei-End
 - Temperature Sensor Pt 1000
 - Base Plate
 - MonoBlock for 5 x 250 ml Flasks
 - 2 x 100-ml Flask Insert
 - 2 x 50-ml Flask Insert
 - 1 x 25-ml Flask Insert
 - 5-way Clamp (Velcro Strap)
 - 5-way Clamp (Silicone Strap & Long Handle)
 - 2 x Water Manifold
 - 1 x Gas/Vacuum Manifold
 - 650-mm Split Rod

P/N 505-81100-00

➤ Technical Specifications - Magnetic Stirrers

Model	MR Hei-Mix S	MR Hei-Mix L	MR Hei-Mix D	MR Hei-Standard	MR Hei-Tec	MR Hei-End
P/N (230 V)	503-02000-00	505-00000-00	505-01000-00	505-20000-00	505-30000-00	505-50000-00
Speed, max. (rpm)	2,200	1,400	1,400	1,400	1,400	1,400
Speed accuracy (%)	±5	±2	±2	±2	±2	±1
Display	–	–	digital	–	digital	digital
Analog/digital interface	–	–	–	–	–	yes
Heating power (W)	–	–	–	800 *	800 *	800 *
Hotplate temperature (°C)	–	–	–	20 – 300	20 – 300	20 – 300
Medium temperature, max. (°C)	–	–	–	250	250	250
Accuracy temperature setting (°C)	–	–	–	±5	±1	±1
External temperature sensor	–	–	–	EKT Hei-Con	Pt 1000	Pt 1000
Temperature accuracy with external temperature sensor (°C)	–	–	–	±1	±1	±0.2
Sensor breakage protection	–	–	–	with EKT Hei-Con	with Pt 1000	with Pt 1000
Temperature control	–	–	–	Micro controller	Micro controller	Micro controller
Temperature accuracy hotplate (°C)	–	–	–	±5	±5	±5
Safety circuit hotplate (°C)	–	–	–	25 °C over hotplate temperature	25 °C over hotplate temperature	10 - 25 °C over nominal temperature
Stirring capacity, max. (H ₂ O) (l)	5	20	20	20	20	20
Load, max. (kg)	6	25	25	25	25	25
Power consumption (W)	7	20	20	820	820	825
Permissible ambient temperature (°C)	0 – 40	0 – 40	0 – 40	0 – 40	0 – 40	0 – 40
Max. relative humidity (%)	80	80	80	80	80	80
Plate diameter (mm)	ø 104	ø 145	ø 145	ø 145	ø 145	ø 145
Plate material	PVDF	V2A	V2A	Kera-Disk® (Silumin with ceramic coating)	Kera-Disk® (Silumin with ceramic coating)	Kera-Disk® (Silumin with ceramic coating)
Weight (kg)	1.2	2.6	2.6	2.9	2.6	2.6
Dimensions (l x w x h) (mm)	126 x 140 x 80	173 x 277 x 94	173 x 277 x 94	173 x 277 x 94	173 x 277 x 94	173 x 277 x 94
Protection class (DIN EN 60529)	IP 21	IP 32	IP 32	IP 32	IP 32	IP 32

* 600 W for 115 V-units
Standard supply voltage: 230 V - other voltages upon request, please specify for order



Certificate

To confirm the ability for
continuous operation
of the MR Series Magnetic Stirrers with hotplate

The MR Series Magnetic Stirrers with hotplate feature overtemperature safety circuits according to DIN EN 61010-1:2001 and DIN EN 61010-2-010:2003 and therefore are designed for continuous operation.

This statement is made under the precondition that all units are operated in accordance with the operation manual and in accordance with good practice standards for safety in laboratories, rules for accident preventions, and compliance with directions on hazardous materials.

Schwabach, January 2013


i. V. Jan Welzien
Technical Director


i. V. Stefan Richter
Quality Control Director



Heidolph Instruments GmbH & Co. KG

Walpersdorfer Str. 12 • 91126 Schwabach/Germany

Phone +49 9122/9920-69 • Fax +49 9122/9920-65

Heidi.Leinberger@heidolph.de • www.heidolph.com