

# Magnetic Stirrers

**Magnetic Stirrers**

**Magnetic Hotplate Stirrers**

Preferred use of Heidolph Magnetic Stirrers includes smooth to intense mixing and heating of low-viscosity fluids. Your first choice for decomposing organic and inorganic substances.



## Magnetic Stirrers without heating



MR Hei-Mix S  
MR Hei-Mix L  
MR Hei-Mix D

## Magnetic Hotplate Stirrers



MR Hei-Standard  
MR Hei-Tec  
MR Hei-Tec [ ]  
MR Hei-End

## Magnetic Stirrers without heating



shown here: MR Hei-Mix D

MR Hei-Mix S:  
will replace MR 1000

MR Hei-Mix L:  
will replace MR 3000

MR Hei-Mix D:  
will replace MR 3000D

## Magnetic Hotplate Stirrers



MR Hei-Standard:  
will replace MR 3001,  
MR 3001 K, MR 3001 K8

MR Hei-Tec:  
will replace MR 3002 S, MR  
3002 S8, MR 3002 C, MR 3002 G

MR Hei-Tec [ ]:  
new model

shown here: MR Hei-Standard

# Magnetic Hotplate Stirrers



**MR Hei-End:**  
will replace MR 3004 safety S/C/G  
available end of June 2006

## General Advantages

- **New, flat design with plates in different sizes and shapes**
- **Corrosion-proof aluminium die-cast housing, hermetically sealed, made of chemically resistant Polyamide material**
- **Enhanced heavy-duty stirring magnet device stirring bars with ease**
- **Models with constant speed, even under changing loads, temperature and voltage peaks**
- **High accuracy temperature setting of  $\pm 1K$**
- **With additional safety temperature sensor for electronic safety cut-out**

## General Advantages

- Intuitive operation guidance and illuminated digital display
- Maintenance-free motors with smooth start feature
- High-efficiency motor with low power consumption
- All units come with a heating power of 800 W for fast heating-up
- Hot plate made of Silumin (aluminium alloys) with ceramic coating:
  - excellent heat conduction and distribution
  - extremely resistant against scratches and chemicals

## Magnetic Stirrers without heating

### MR Hei-Mix S:

- Virtually no heat up of the stirrer plate
- Preferred use in cellular biology
- White, chemically resistant PVDF plate
- Especially recommended for titration
- Speed range up to 2,200 rpm
- Minimum space requirements
- Plate diameter: 105 mm



## Magnetic Stirrers without heating

### MR Hei-Mix L:



- Recommended for use in cell biology laboratories
- Even after extended operation minor heat transfer to the top plate only
- Top plate made of corrosion-resistant stainless steel (V2A)
- Analogue control dials for speed setting from 100 – 1,400 rpm
- Plate diameter: 145 mm

## Magnetic Stirrers without heating

### MR Hei-Mix D:



- Even after extended operation minor heat transfer to the top plate only
- Top plate made of corrosion-resistant stainless steel (V2A)
- Electronic speed control with digital display
- Analogue control dials for speed setting from 100 – 1,400 rpm
- Plate diameter: 145 mm

## Magnetic Hotplate Stirrers

### MR Hei-Standard:

- Hot plate temperature range: 20 – 300°C
- Speed range: 100-1,400 rpm
- Speed accuracy  $\pm 2\%$
- Triac guarantees long service life
- Hot plate made of Silumin with ceramic coating for excellent heat conduction and optimal resistance against scratches and chemicals
- Extra safety control circuit and hot plate cut-out by two independent temperature sensors
- Connector for electronic temperature control EKT Hei-Con (optional)



## Magnetic Hotplate Stirrers

### MR Hei-Tec:

- Hot plate temperature range: 20 – 300°C
- Speed range: 100-1,400 rpm, accuracy  $\pm 2\%$
- Digital display for nominal speed & temp.
- Illuminated switch for actual heating condition
- Triac guarantees long service life
- Hot plate made of Silumin with ceramic coating for excellent heat conduction and optimal resistance against scratches and chemicals
- Extra safety control circuit and hot plate cut-out by two independent temperature sensors
- Connector for electronic temperature control EKT Hei-Con (optional)



## Magnetic Hotplate Stirrers

### MR Hei-Tec[ ]:

- Same specifications as MR Hei-Tec
- Comes with square-shaped hot plate
- Hot plate made of enameled Silumin
- Dimensions hot plate (W x D):  
132 x 132 mm



## Magnetic Hotplate Stirrers

### MR Hei-End:

- Hot plate temperature range: 20 – 300°C
- Speed range: 30-1,400 rpm
- Superior speed accuracy  $\pm 1\%$
- Digital display for speed & temperature (both nominal and actual)
- Illuminated switch for actual heating condition
- Triac guarantees long service life
- Hot plate made of Silumin with ceramic coating for excellent heat conduction and optimal resistance against scratches and chemicals



## Magnetic Hotplate Stirrers

### MR Hei-End:

- Hot plate residual heat indicator in the digital display lights when unit is switched off but hot plate temp is still higher than 50°C
- No unintentional temperature setting
- Extra safety control circuit and hot plate cut-out by two independent temperature sensors
- An independent safety circuit switches off the heating if a prefixed temperature difference ( $\Delta T$ ) above set temperature is reached
- Serial interface RS 232 (for speed and temperature setting) and analog 0-10 V interface (read-out actual sample temperature)
- Medium temperature sensor (optional) using two independent PT 1000 double-checking each other (safety circuit); control accuracy  $\pm 0.2$  K

## Electronic Temperature Controller



EKT Hei-Con:  
will replace EKT 3001  
available end of June 2006

EKT Hei-Con G:  
will replace EKT 3001 G  
available end of June 2006

## Electronic Temperature Controller

### EKT Hei-Con (G):

- Can be combined with stirrer models MR Hei-Tec, MR Hei-Tec [ ], MR Hei-Standard and also with MR 3001 K and MR 3002
- Electronic temperature controller with fuzzy logic control (fast heating, no temperature overshoots)
- With clear double-spaced digital display for nominal & actual temp.
- Control range: ambient temperature up to +300°C; accuracy:  $\pm 1^\circ\text{C}$
- Sensor short-circuit and breakage protection
- Mercury free
- Two alternatives available: either with a stainless steel sensor (V2A) or for the use with strong acids with a glass coated sensor

## Accessories



**Heating Baths**



**Temperature Sensor**



**Magnetic Stir Bars**



**Holding Device**

## DrySyn Reaction Blocks



### Convert your magnetic stirrer into a reaction block

- Inserts for round bottom flasks and cylindrical reaction vessels
- Up to 12 reactions at the same time
- Greater versatility; do any combination of reaction adaptors
- Powerful stirring in all configurations
- Controlled heating and temperature control
- Temperature sensor fits directly in insert for greater accuracy

## DrySyn Attachments



DrySyn Multi M with 3 x 250 ml flasks

### Example of use:

- 1 reaction:  
Use central position for optimal stirring and heating
- 3 reactions:  
Do any combination of 10 ml, 25 ml, 50 ml, 100 ml and 250 ml round bottom flasks
- 12 reactions:  
Use up to 3 reaction vial inserts for the following vessel dia.: 16.2 mm, 17.4 mm, 20.2 mm, 24.4 mm or 25.75 mm

## DrySyn Attachments

More DrySyn inserts for round bottom flasks (10 – 250 ml) and reaction vessels (Ø 16.2 – 25.75 mm) available



DrySyn inserts



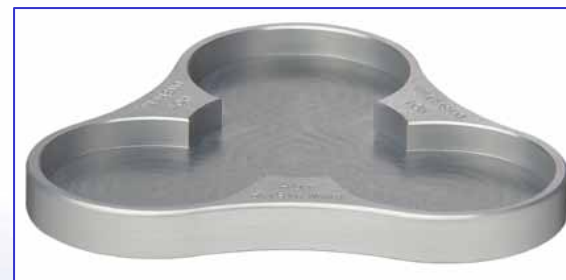
DrySyn insert vials



Set DrySyn MULTI

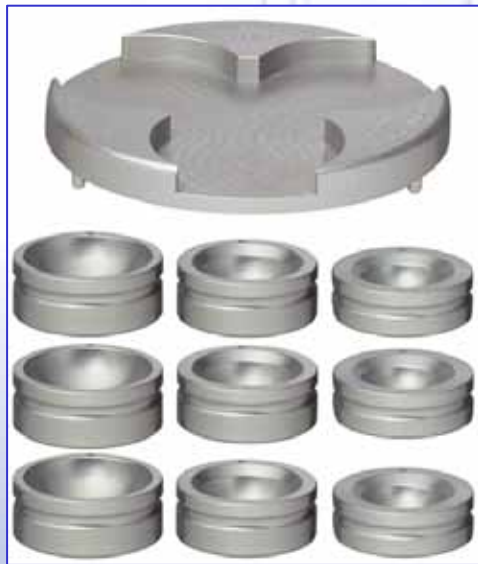


DrySyn MULTI Base



DrySyn MULTI M Base

## DrySyn MULTI Sets



DrySyn MULTI

Comes with following inserts:

3 x 25 ml

3 x 50 ml

3 x 100 ml

Complete sets for  
round bottom flasks



DrySyn MULTI M

Comes with following inserts:

3 x 100 ml

3 x 250 ml