



# PRODUCT CATALOGUE

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## VARIOMAG<sup>®</sup>

●●● **Magnetic Stirrers**

ALYS Labware, Lausanne  
Tel : 021 312 42 60  
Fax : 021 312 42 61  
[labware@alys-technologies.com](mailto:labware@alys-technologies.com)

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## DIRECT-CONTROLLED MAGNETIC STIRRERS SINGLE-POINT, HEATABLE

### Direct-controlled magnetic stirrers

have the following advantages:

- Simple operation
- Inexpensive
- Space economy

### MONOTHERM

- Wear-free inductive VARIOMAG drive
- Direct-controlled
- Speeds of 130 to 1.000 rpm
- Stirring volume up to 3.000 ml
- Heating plate temperatures up to +300 °C
- Rapid and economical heating using fully insulated heating plate
- No ballistic effects of the liquid temperature thanks to an innovative electronic control system
- Compact aluminium housing
- Available in grey and in mint
- Ultra-flat for extra stability
- Two threaded bore holes (M10) for support rods integrated in housing
- Contact thermometer (optional)
- VDE approved
- Inexpensive





### TECHNICAL DATA

		MONOTHERM
Number of stirring points		1
Stirring volume per stirring point (ml)		1 - 3.000
Stirring power (W)		6
Speed range (1/min)		130 - 1.000
Heating power (W)		500
Dimensions WxDxH (mm)		160 x 295 x 60
Weight (kg)		2,5
Operating voltage (VAC)		115 or 230
<b>Construction</b>		
Heating plate material		Al Mg 5
Protection (DIN 40050)		Protection class 1 IP 42, VDE approved
<b>Ambient conditions</b>		
Operating temperature (°C)		-10 up to +40 at 80% relative humidity
Operation		direct-controlled
<b>Order No. Color Grey</b>		<b>60100 (115 VAC = 60100 U)</b>
<b>Order No. Color Mint</b>		<b>60160 (115 VAC = 60160 U)</b>

### ACCESSORIES

**THERMOCONTROL**  
Electronic contact thermometer

**POWER SUPPLY with adapter for THERMOCONTROL**  
Required for use with **MONOTHERM**

**MOUNTING CLAMP for THERMOCONTROL**

**Stainless steel MOUNTING CLAMP for THERMOCONTROL**

**SUPPORT ROD**

**GUARD RING**

**KOMET STIRRING BARS**

For further information see page 40

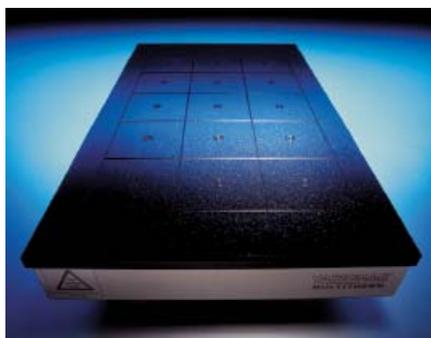


## REMOTE-CONTROLLED MAGNETIC STIRRERS MULTIPLE POINT, HEATABLE

### Remote-controlled magnetic stirrers

have the following advantages:

- Extraordinary mechanical, physical and chemical resistance
- Wide range of features
- Ideal for integration in larger units
- Ergonomic and convenient handling of e.g. magnetic stirrers placed under vents



### MULTITHERM 6

Ideal for up to 6 different vessels and for mass screenings, but also for incubating or concentrating samples and for evaporating solvents

- Wear-free inductive VARIOMAG drive
- Remote-controlled by separately available TELEMODUL 40 CT control unit
- Six stirring points for synchronized operation
- One flat heating plate for all stirring points made of massive aluminium
- Heating plate temperatures up to +200 °C
- PTFE-coated heating plate - dirt-repellent and non-corroding
- Speeds of 100 to 2.000 rpm
- Stirring volume up to 1.000 ml
- Suitable for 6 x 1.000 ml Erlenmeyer flasks
- Ideally suited for vessels of different types and sizes
- May be deployed directly under fume hoods

For technical specifications and a functional description of the **TELEMODUL 40 CT** control unit, please refer to page 34.



## MULTITHERM 15

Identical with **MULTITHERM 6** with regard to dimensions, features, and technology, but with 15 stirring points.

For technical specifications and a functional description of the **TELEMODUL 40 CT** control unit, please refer to page 34.

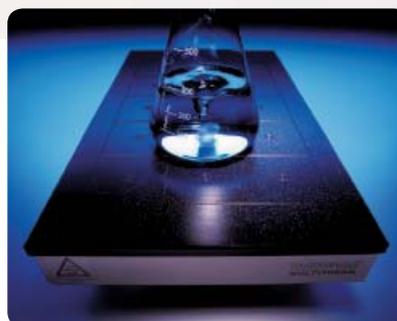
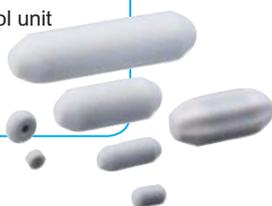
### +++ ACCESSORIES

#### PT 100 TEMPERATURE SENSOR (external)

- For direct control of the liquid temperature
- Stainless steel jacket
- For **TELEMODUL 40 CT** control unit

#### KOMET STIRRING BARS

For further information see page 37



### TECHNICAL DATA

	MULTITHERM 6	MULTITHERM 15
Number of stirring points	6	15
Distance between stirring points (mm)	130	65
Stirring volume per stirring point (ml)	1 - 1.500	1 - 1.000
Stirring power (W)	12 - 40	12 - 40
Speed range (1/min)	100 - 2.000	100 - 2.000
Dimensions WxDxH (mm)	250 x 430 x 75	250 x 430 x 75
Weight (stirring drive) (kg)	12,5	13
Temperature range (°C)	up to +200	up to +200
Heating power (W)	1200	1200
Operating voltage (VAC)	115 or 230	115 or 230
<b>Construction</b>		
Heating plate material	aluminium / PTFE	aluminium / PTFE
Protection acc. to DIN 40050	IP 31	IP 31
<b>Ambient conditions</b>		
Operating temperature (°C)	-10 up to +56 at 80% relative humidity	-10 up to +56 at 80% relative humidity
<b>Control unit</b>		
Operation	remote-controlled	remote-controlled
Includes TELEMODUL	40 CT	40 CT
Supply voltage / frequency	100 - 240 VAC / 50 - 60 Hz	100 - 240 VAC / 50 - 60 Hz
<b>Order No.</b>	<b>66106 (115 V = 66106 U)</b>	<b>66107 (115 V = 66107 U)</b>

## REMOTE-CONTROLLED MAGNETIC STIRRERS MULTIPLE POINT, HEATABLE

### Remote-controlled magnetic stirres

have the following advantages:

- Extraordinary mechanical, physical and chemical resistance
- Wide range of features
- Ideal for integration in larger units
- Ergonomic and convenient handling of e.g. magnetic stirrers placed under vents

### STIRRING BLOCK THERMOSTAT 15.57

Ideally suited e.g. for applications in combinatorial chemistry, for biological applications, for quality control in chemical and waste water technology, for viscosity measurements, and for testing the solution behaviour of acrylics.

- Wear-free inductive VARIOMAG drive
- Remote-controlled by separately available **TELEMODUL 40 CT** control unit
- 15 stirring points with block bores  $\varnothing$  57,5 mm / 48 mm depth
- Heating block made of massive aluminium
- Heating block temperatures up to +200 °C
- Minimal temperature gradient inside the stirring vessels by omnidirectional heating (block bores)
- PTFE-coated heating plate - dirt-repellent and non-corroding
- Easy-to-use dry bath
- Speeds of 100 to 2.000 rpm
- Stirring volume up to 150 ml
- Suitable for 15 x 100 ml laboratory flasks or 150 ml glass beakers
- May be deployed directly under fume hoods
- Two threaded bore holes (M10) for support rods integrated in frame corners
- Customized block bore diameters ( $\varnothing$  16 to 57,5 mm) and block bore depths on request
- Includes **TELEMODUL 40 CT** control unit (stirring power 40 watts)

For technical specifications and a functional description of the **TELEMODUL 40 CT** control unit, please refer to page 34.



## STIRRING BLOCK THERMOSTAT 15.71

Identical with **STIRRING BLOCK THERMOSTAT 15.57** with regard to features and technology, but with:

- 15 block bores Ø 71 mm / 78 mm depth
- Suitable for 15 x 250 ml laboratory flasks or 400 ml glass beakers
- Customized block bore diameters (Ø 58 to 76 mm) and block bore depths on request

For technical specifications and a functional description of the **TELEMODUL 40 CT** control unit, please refer to page 34.



### +++ ACCESSORIES

#### REDUCING SLEEVES, naturally anodized

- Custom adaptation of existing bores to stirring vessels with smaller diameters available on request

#### PT 100 TEMPERATURE SENSOR (external)

- For direct control of the liquid temperature
- Stainless steel frame
- For **TELEMODUL 40 CT** control unit

#### SUPPORT ROD

#### KOMET STIRRING BARS

For further information see page 37



Please also note our **"VARIOMAG REACTION BLOCKS"** product range. VARIOMAG Reaction Blocks are flexible and universal solutions for stirring, heating and cooling as well as reflux cooling and inert gas protection for samples and reaction block. See our notes on page 45 and our special **VARIOMAG REACTION BLOCK** brochure.



### TECHNICAL DATA

	STIRRING BLOCK THERMOSTAT 15.57	STIRRING BLOCK THERMOSTAT 15.71
Number of stirring points	15	15
Distance between stirring points (mm)	65	84
Block bores Ø / D (mm)	57,5 / 48	71 / 78
Stirring volume per stirring point (ml)	1 - 150	1 - 400
Stirring power (W)	12 - 40	12 - 40
Speed range (1/min)	100 - 2.000	100 - 2.000
Dimensions WxDxH (mm)	295 x 445 x 110	345 x 525 x 140
Weight (Stirring drive) (kg)	approx. 20	approx. 25
Temperature range (°C)	up to +200	up to +200
Heating power (W)	1.100	1.100
Operating voltage (VAC)	115 or 230	115 or 230
<b>Construction</b>		
Material heating block	aluminium / PTFE	aluminium / PTFE
Protection acc. to DIN 40050	IP 31	IP 31
<b>Ambient conditions</b>		
Operating temperature (°C)	-10 up to +56 at 80% relative humidity	-10 up to +56 at 80% relative humidity
<b>Control unit</b>		
Operation	remote-controlled	remote-controlled
Includes TELEMODUL	40 CT	40 CT
Supply voltage / frequency	100 - 240 VAC / 50 - 60 Hz	100 - 240 VAC / 50 - 60 Hz
<b>Order No.</b>	<b>61580 (115 V = 61580 U)</b>	<b>61780 (115 V = 61780 U)</b>

## REMOTE-CONTROLLED MAGNETIC STIRRERS MULTIPLE POINT, HEATABLE

### Remote-controlled magnetic stirrers

have the following advantages:

- Extraordinary mechanical, physical and chemical resistance
- Immersible, can be used directly in the water bath
- Highly heat-resistant - up to +50 °C directly in the water bath, up to +95 °C directly in the water bath (special), and up to +200 °C in air (on request)
- Choice of 2 control units for different types of usage (see description of features and options on pages 32 and 33)
- Great range of features depending on the specifications of the control unit
- Ideally suited for system integration
- Ergonomic and convenient handling of e.g. submerged magnetic stirrers
- Safe low-voltage device

### STIRRING BATH THERMOSTAT 06.20 STIRRING BATH THERMOSTAT 15.20 STIRRING BATH THERMOSTAT 60.20

Ideal for growing bacteria cultures.

Complete systems include:

- VARIOMAG stirring drive **TELESYSTEM 6, 15 or 60**
- VARIOMAG control unit **TELEMODUL 20 C**
- **TRANSPARENT BATH MOUNT**
- **JULABO EC immersible thermostat** with circulation pump and digital temperature display (for features and specifications see page 42)
- Wear-free inductive VARIOMAG drive
- Remote-controlled by separate control unit
- 6, 15 or 60 stirring points
- The magnetic stirrers can be placed directly in the water bath up to +50 °C (standard); for more demanding applications up to +95 °C directly in the water bath (on request) are possible  
Note: If the temperature of the liquid bath exceeds +95 °C, the magnetic stirrer must be placed below the bath.
- Suitable for 6 x 1.000 ml Erlenmeyer flasks
- Ideally suited for different vessels
- For precision temperature control (+/- 0,1 K)
- Includes **TELEMODUL 20 C** control unit for simple everyday mixing tasks
- Cooling equipment on request

For technical specifications and a functional description of the **TELEMODUL 20 C** control unit, please refer to page 32.

### Examples of nomenclature for STIRRING BATH THERMOSTATS

**STIRRING BATH THERMOSTAT 15.20** is equipped with a 15-point **TELESYSTEM** magnetic stirrer and a **TELEMODUL 20 C** control unit (20 watts stirring power).



## STIRRING BATH THERMOSTAT 06.40 STIRRING BATH THERMOSTAT 15.40 STIRRING BATH THERMOSTAT 60.40

Identical with **STIRRING BATH THERMOSTAT 06.20**, **15.20** and **60.20** with regard to dimensions, features, and technology, but with:

- extra powerful **TELEMODUL 40 C** control unit for sophisticated stirring tasks, with a wide range of available speeds and larger stirring volumes

For technical specifications and a functional description of the **TELEMODUL 40 C** control unit, please refer to page 33.



### ACCESSORIES

**TRANSPARENT BATH MOUNT**

**STAINLESS STEEL BATH MOUNT**

**JULABO immersible thermostat**

**EXTENSION CORD** for stirring drive

**KOMET STIRRING BARS**

For further information see page 37



### HINT

For bath temperatures above +60 °C, the stainless steel bath mount must be used.

### TECHNICAL DATA

	STIRRING BATH THERMOSTAT			STIRRING BATH THERMOSTAT		
	06.20	15.20	60.20	06.40	15.40	60.40
Number of stirring points	6	15	60	6	15	60
Distance between stirring points (mm)	130	65	32,5	130	65	32,5
Stirring volume per stirring point (ml)	1 - 800	1 - 500	1 - 10	1 - 1.500	1 - 1.000	1 - 50
Stirring power (W)		5 - 20 (4 levels)			4 - 40 (10 levels)	
Speed range (1/min)		130 - 1.400			100 - 2.000	
Dimensions, bath WxDxH (mm)		330 x 610 x 185			330 x 610 x 185	
Weight (kg)		approx. 20			approx. 20	
Heating power (W)		2.000			2.000	
Operating voltage, thermostat (VAC)		115 or 230			115 or 230	
<b>Construction</b>						
Housing material stirring drive		stainless steel			stainless steel	
Protection acc. to DIN 40050		IP 68 (stirring drive)			IP 68 (stirring drive)	
<b>Ambient conditions</b>						
Operating temperature (°C)		0 up to +40 at 80% relative humidity			0 up to +40 at 80% relative humidity	
Operating bath temperature (°C)		0 up to +50 (stirring drive in bath) 0 up to +60 (stirring drive under bath)			0 up to +50 (stirring drive in bath) 0 up to +60 (stirring drive under bath)	
<b>Control unit</b>						
Operation		remote-controlled			remote-controlled	
Includes TELEMODUL	20 C	20 C	20 C	40 C	40 C	40 C
Supply voltage / frequency		100 - 240 VAC / 50 - 60 Hz			100 - 240 VAC / 50 - 60 Hz	
<b>Order No.</b>	<b>70620</b>	<b>71520</b>	<b>76020</b>	<b>70640</b>	<b>71540</b>	<b>76040</b>
	(115 V = 70620 U)	(115 V = 71520 U)	(115 V = 76020 U)	(115 V = 70640 U)	(115 V = 71540 U)	(115 V = 76040 U)

## DIRECT-CONTROLLED MAGNETIC STIRRERS SINGLE-POINT

### Direct-controlled magnetic stirrers

have the following advantages:

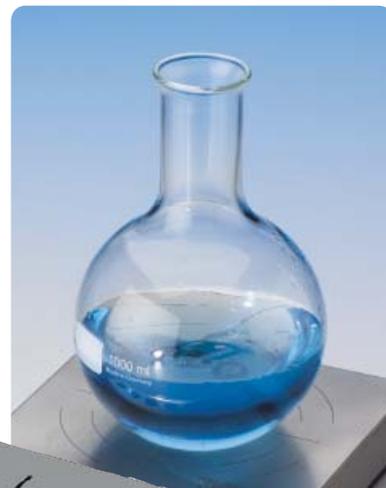
- Simple operation
- Inexpensive
- Space economy
- Safe low-voltage device

### + HINT

The suitability of direct-controlled magnetic stirrers for use in incubators is limited, because the stirring power cannot be reduced. In addition, the integrated electronics heat the magnetic stirrer additionally.

### MONO DIRECT

- Wear-free inductive VARIOMAG drive
- Direct-controlled
- Speeds of 130 to 1.000 rpm
- Automatic start-up for safe acceleration of the magnetic stirrer
- Stirring volume up to 3.000 ml
- Powder-coated stainless steel housing, grey
- Power supply with pre-selectable stirring power to minimize heat radiation
- LED lamp
- Inexpensive



### COMPACT DIRECT

- Wear-free inductive VARIOMAG drive
- Direct-controlled
- Speeds of 130 to 1.000 rpm
- Automatic start-up for safe acceleration of the magnetic stirrer
- Stirring volume up to 1.000 ml
- Sealed in a resistant stainless steel housing, thus suitable for use under conditions of high ambient humidity and in the presence of aggressive media
- Can be cleaned under running water
- Power supply with pre-selectable stirring power to minimize heat radiation at the point of use
- Sturdily built, convenient size

## MAXI DIRECT

- Wear-free inductive VARIOMAG drive, effectiveness increased by microprocessor control
- Direct-controlled
- Extremely wide speed range of 80 to 2.000 rpm
- Stirring bars turn evenly and without jerking, even at low speeds
- Digital display to facilitate exact speed settings
- Automatic start-up for safe acceleration of the magnetic stirrer
- Four different power settings (5/10/15/20 watts), with power for larger quantities and more viscous liquids and reduced power for long-term operation, largely without heat generation
- Memory function stores the most recent settings, even when the device is taken off mains for a longer period of time
- Stirring volume up to 5.000 ml
- Far-reaching magnetic field, suitable for highly viscous media
- Large working surface
- Hermetically sealed stainless steel housing, making it inaccessible to water or dust; easy-to-clean housing with no cracks, joints or sharp edges
- Can be cleaned under running water
- Indestructible
- Universal power supply for 100 - 240 VAC / 50 - 60 Hz

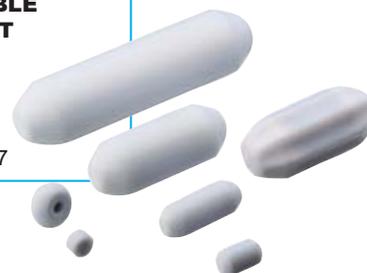


### ACCESSORIES

**12 V CAR CONNECTION CABLE**  
(**MONO DIRECT** and **COMPACT DIRECT** only)

**KOMET STIRRING BARS**

For further information see page 37



### TECHNICAL DATA

	MONO DIRECT	COMPACT DIRECT	MAXI DIRECT
Number of stirring points	1	1	1
Stirring volume per stirring point (ml)	1 - 3.000	1 - 3.000	1 - 5.000
Stirring power (W)	1 / 5	1 / 5	5 / 10 / 15 / 20
Speed range (1/min)	130 - 1.000	130 - 1.000	80 - 2.000
Dimensions WxDxH (mm)	180 x 215 x 35	120 x 120 x 35	180 x 215 x 35
Weight (stirring drive) (kg)	1,4	1,2	2,5
Operating voltage (VDC)	8 - 12	8 - 12	24
<b>Construction</b>			
Housing material stirring drive	stainless steel, powder coated	stainless steel	stainless steel
Protection acc. to DIN 40050	IP 32	IP 64	IP 64
<b>Ambient conditions</b>			
Operating temperature (°C)	-10 up to +40 at 95% relative humidity	-10 up to +40 at 95% relative humidity	-10 up to +40 at 95% relative humidity
Operation	direct-controlled	direct-controlled	direct-controlled
Includes power unit	power supply unit	power supply unit	table power supply unit
Supply voltage / frequency	115 or 230 VAC / 50 - 60 Hz	115 or 230 VAC / 50 - 60 Hz	100 - 240 VAC / 50 - 60 Hz
<b>Order No.</b>	<b>30110 (115 V = 30110 U)</b>	<b>36102 (115 V = 36102 U)</b>	<b>30125 (115 V = 30125 U)</b>

## REMOTE-CONTROLLED MAGNETIC STIRRERS SINGLE-POINT

### Remote-controlled magnetic stirrers

have the following advantages:

- Extraordinary mechanical, physical and chemical resistance
- Immersible, can be used directly in the water bath
- Highly heat-resistant - up to +50 °C directly in the water bath, up to +95 °C directly in the water bath (special), and up to +200 °C in air (on request)
- Choice of 3 control units for different types of usage (see functional description on pages 32 and 33)
- Great range of features depending on the specifications of the control unit
- Ideally suited for system integration
- Ergonomic and convenient handling of e.g. submerged magnetic stirrers
- Safe low-voltage device



### Examples of nomenclature

The designs of the various models of **single-point stirring drives** are identical in principle. The functions of remote-controlled VARIOMAG Magnetic Stirrers and their power and speed depend on the control units (see the control unit description and list of functions starting on page 32).

The remote-controlled magnetic stirrers shown in this catalogue are distinguished only by the type of control unit that is included. The following example should help illustrate this:

**MINI:**  
VARIOMAG Magnetic Stirrer  
**MINI** with control unit  
**TELEMODUL**  
(7 Watt stirring power)

**MINI 20:**  
VARIOMAG Magnetic Stirrer  
**MINI** with control unit  
**TELEMODUL 20 C**  
(20 Watt stirring power)



### MINI · MINI 20

- Wear-free inductive VARIOMAG drive
- Remote-controlled by separate control unit
- No larger than a one-cent coin
- Only 5 mm high
- Ideally suited for cuvettes 12 x 12 mm
- Ideal for integration in analytical devices, cuvette holders and photometers
- OEM versions on request
- Highly flexible foil cable, 0.3 mm thick
- **MINI 20** is recommended for greater distances between the magnetic stirrer and the stirring vessel
- Includes **TELEMODUL** control unit (stirring power 7 watts) or **TELEMODUL 20 C** control unit (stirring power 20 watts)

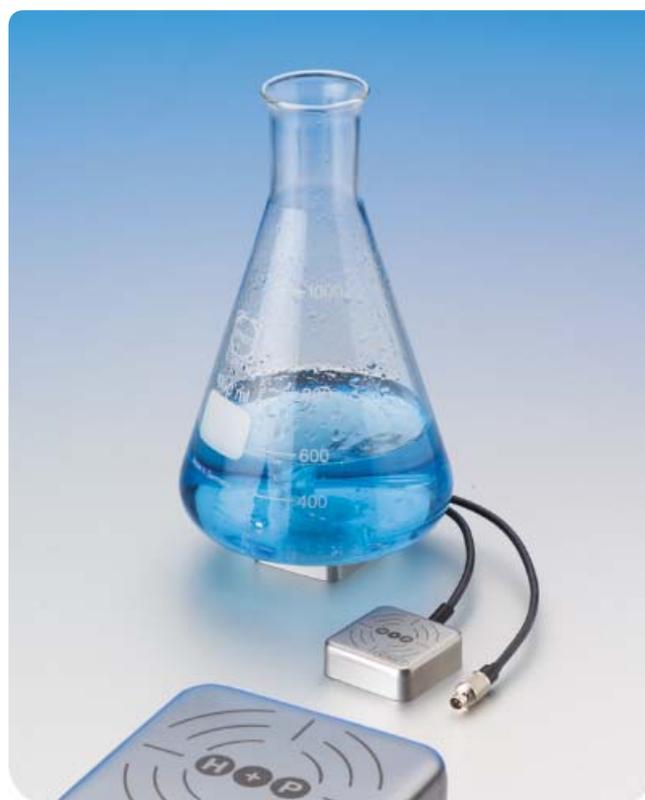
For technical specifications and a functional description of the **TELEMODUL** control unit, please refer to page 32.



## MICRO · MICRO 20

- Wear-free inductive VARIOMAG drive
- Remote-controlled by separate control unit
- No larger than a matchbox
- Only 16 mm in height
- Hermetically sealed in a resistant stainless steel housing, thus suitable for use under conditions of high ambient humidity or in aggressive media; impermeable to microorganisms
- Can be cleaned under running water
- Ideally suited for operation directly in water baths (up to +95 °C)
- Version for operation at up to +200 °C in air available (on request)
- Integrated M4-threaded bore for attaching the magnetic stirrer at the bottom of the housing
- Sturdy and indestructible
- Includes **TELEMODUL** control unit (stirring power 7 watts) or **TELEMODUL 20 C** control unit (stirring power 20 watts)

For technical specifications and a functional description of the **TELEMODUL** control unit, please refer to page 32.



Original size

### +++ ACCESSORIES

**BENCHTOP DISTRIBUTOR 4-FOLD**

**BENCHTOP DISTRIBUTOR 8-FOLD**

**EXTENSION CORD** for stirring drive

**KOMET STIRRING BARS**

For further information see page 37



### TECHNICAL DATA

	MINI	MINI 20	MICRO	MICRO 20
Number of stirring points	1		1	
Stirring volume per stirring point (ml)	0,1 - 5		1 - 800	1 - 1.000
Stirring power (W)	0,10	0,05 / 0,1 / 0,15 / 0,20	3	2 / 4 / 6 / 8
Speed range (1/min)	130 - 1.000	130 - 1.400	130 - 1.000	130 - 1.400
Dimensions WxDxH (mm)	12 x 12 x 5		48 x 48 x 16	
Weight (kg)	0,02		0,2	
Operating voltage (VDC)	12	20	12	20
<b>Construction</b>				
Housing material	plastic		stainless steel	
Protection acc. to DIN 40050	IP 68		IP 68	
<b>Ambient conditions</b>				
Operating temperature (°C)	-10 up to +56 at 100% relative humidity		-10 up to +120 in dry air	
Operating temperature in water (°C)	-		0 up to +95 (stirring drive in bath)	
<b>Control unit</b>				
Operation	remote-controlled		remote-controlled	
Includes TELEMODUL	Standard	20 C	Standard	20 C
Supply voltage / frequency	115 or 230 VAC / 50 - 60 Hz	100 - 240 VAC / 50 - 60 Hz	115 or 230 VAC / 50 - 60 Hz	100 - 240 VAC / 50 - 60 Hz
<b>Order No.</b>	<b>40163 (115 V = 40163 U)</b>	<b>40165 (115 V = 40165 U)</b>	<b>40107 (115 V = 40107 U)</b>	<b>40120 (115 V = 40120 U)</b>

## REMOTE-CONTROLLED MAGNETIC STIRRERS SINGLE-POINT

### Remote-controlled magnetic stirrers

have the following advantages:

- Extraordinary mechanical, physical and chemical resistance
- Immersible, can be used directly in the water bath
- Highly heat-resistant - up to +50 °C directly in the water bath, up to +95 °C directly in the water bath (special), and up to +200 °C in air (on request)
- Choice of 3 control units for different types of usage (see functional description on pages 32 and 33)
- Great range of features depending on the specifications of the control unit
- Ideally suited for system integration
- Ergonomic and convenient handling of e.g. submerged magnetic stirrers
- Safe low-voltage device

### COMPACT · COMPACT 20

- Wear-free inductive VARIOMAG drive
- Remote-controlled by separate control unit
- Hermetically sealed in a resistant stainless steel housing, thus suitable for use under conditions of high ambient humidity or in aggressive media; impermeable to microorganisms
- Can be cleaned under running water
- Ideally suited for operation directly in water baths (up to +50 °C)
- Versions for operation directly in water baths (up to +50 °C) or at up to +200 °C in air are optionally available
- Suitable for use in incubators (**COMPACT 20** only)
- Sturdy and indestructible
- Compact size
- Includes **TELEMODUL** control unit (stirring power 7 watts) or **TELEMODUL 20 C** control unit (stirring power 20 watts)

For technical specifications and a functional description of the **TELEMODUL** control unit, please refer to page 32.



## MAXI · MAXI 20 · MAXI 40

- Wear-free inductive VARIOMAG drive
- Remote-controlled by separate control unit
- Hermetically sealed in a resistant stainless steel housing, thus suitable for use under conditions of high ambient humidity or in aggressive media; impermeable to microorganisms
- Can be cleaned under running water
- Ideally suited for operation directly in water baths (up to +50 °C)
- Versions for operation directly in water baths (up to +50 °C) or at up to +200 °C in air are optionally available
- Memory function stores the most recent settings, even when the device is taken off mains for a longer period of time (**MAXI 20** and **MAXI 40** only)
- Ideally suited for use in incubators (**MAXI 40** only)
- Sturdy and indestructible
- Large working surface
- Far-reaching magnetic field, particularly suitable for highly viscous media (**MAXI 20** and **MAXI 40**)
- Includes **TELEMODUL** control unit (stirring power 7 watts) or **TELEMODUL 20 C** control unit (stirring power 20 watts) or **TELEMODUL 40 C** control unit (stirring power 40 watts)

For technical specifications and a functional description of the **TELEMODUL** control unit, please refer to page 32.



### ACCESSORIES

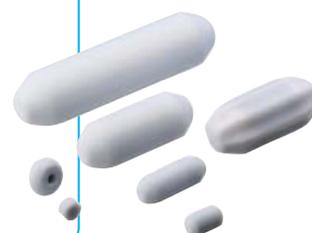
**BENCHTOP DISTRIBUTOR 4-FOLD**

**BENCHTOP DISTRIBUTOR 8-FOLD**

**EXTENSION CORD** for stirring drive

**KOMET STIRRING BARS**

For further information see page 37



### TECHNICAL DATA

	COMPACT	COMPACT 20	MAXI	MAXI 20	MAXI 40
Number of stirring points	1		1		
Stirring volume per stirring point (ml)	1 - 1.000	1 - 1.500	250 - 2.000	250 - 4.000	250 - 5.000
Stirring power (W)	5	3 / 6 / 9 / 12	6	4,5 / 9 / 13,5 / 18	3 - 36
Speed range (1/min)	130 - 1.000	130 - 1.400	130 - 1.000	130 - 1.400	100 - 2.000
Dimensions WxDxH (mm)	120 x 120 x 35		180 x 180 x 35		
Weight (kg)	1		2,3		
Operating voltage (VDC)	12	20	12	20	36
<b>Construction</b>					
Housing material stirring drive	stainless steel		stainless steel		
Protection acc. to DIN 40050	IP 68		IP 68		
<b>Ambient conditions</b>					
Operating temperature (°C)	-10 up to +56 at 100% relative humidity		-10 up to +56 at 100% relative humidity		
Operating temperature in water (°C)	0 up to +50		0 up to +50		
<b>Control unit</b>					
Operation	remote-controlled		remote-controlled		
Includes TELEMODUL	Standard	20 C	Standard	20 C	40 C
Supply voltage / frequency	115 or 230 VAC / 50 - 60 Hz 100 - 240 VAC / 50 - 60 Hz		115 or 230 VAC / 50 - 60 Hz 100 - 240 VAC / 50 - 60 Hz		
<b>Order No.</b>	<b>40116</b> (115 V = 40116 U)	<b>40126</b> (115 V = 40126 U)	<b>40118</b> (115 V = 40118 U)	<b>40130</b> (115 V = 40130 U)	<b>40175</b> (115 V = 40175 U)

## DIRECT-CONTROLLED MAGNETIC STIRRERS MULTIPLE POINT

### Direct-controlled magnetic stirrers

have the following advantages:

- Simple operation
- Inexpensive
- Space economy
- Safe low-voltage device

### POLY 15

Ideally suited for mass screenings and for biological applications

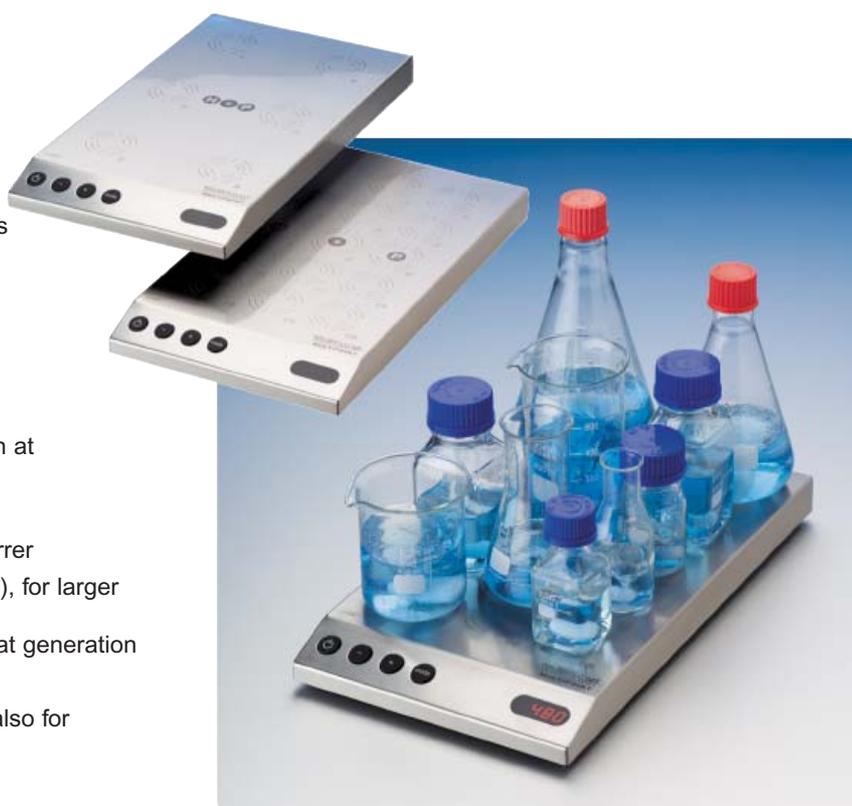
- Wear-free inductive VARIOMAG drive, effectiveness increased by microprocessor control
- Direct-controlled
- 15 stirring points
- Speeds of 130 to 990 rpm
- Digital display to facilitate exact speed settings
- Automatic start-up for safe acceleration of the magnetic stirrer
- Stirring volume up to 2.000 ml
- Suitable for 15 x 250 ml glass beakers or 6 x 1.000 ml Erlenmeyer flasks
- Large, easy-to-clean working surface
- Powder-coated stainless steel housing, grey
- Memory function stores the recent settings, even when the device is taken off mains for a period of time
- Inexpensive



## MULTIPOINT 6

Ideally suited for chemical, biotechnological and medical applications as well as for mass screenings

- Wear-free inductive VARIOMAG drive, increased effectiveness by microprocessor control
- Direct-controlled
- 6 stirring points
- Extremely wide speed range of 80 to 2.000 rpm
- Stirring bars turn evenly and without jerking, even at low speeds
- Digital display to facilitate exact speed settings
- Automatic start-up for safe acceleration of the stirrer
- Four different power settings (25/50/75/100 watts), for larger quantities and more viscous liquids and reduced power for long-term operation, largely without heat generation
- Stirring volume up to 3.000 ml
- Suitable for 6 x 1.000 ml Erlenmeyer flasks, but also for larger single receptacles
- Large, easy-to-clean working surface
- Hermetically sealed stainless steel housing, making it inaccessible to water or dust; easy-to-clean housing with no cracks, joints or sharp edges
- A memory function stores the most recent settings, even when the device is taken off mains for a longer period of time
- Indestructible

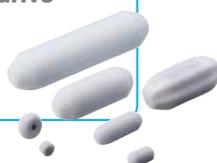


### ACCESSORIES

**EXTENSION CORD** for stirring drive

**KOMET STIRRING BARS**

For further information see page 37



## MULTIPOINT 15

Identical with **MULTIPOINT 6** with regard to dimensions, features, and technology, but with:

- 15 stirring points
- Suitable for 15 x 250 ml glass beakers but also 6 x 1.000 ml Erlenmeyer flasks

### TECHNICAL DATA

	POLY 15	MULTIPOINT 6	MULTIPOINT 15
Number of stirring points	15	6	15
Distance between stirring points (mm)	65	130	65
Stirring volume per stirring point (ml)	1 - 800	1 - 3.000	1 - 3.000
Stirring power (W)	10	5 / 10 / 15 / 20 (4 levels)	5 / 10 / 15 / 20 (4 levels)
Speed range (1/min)	130 - 990	80 - 2.000	80 - 2.000
Dimensions WxDxH (mm)	240 x 420 x 35	240 x 420 x 35	240 x 420 x 35
Weight (stirring drive) (kg)	6	7,5	7,5
Operating voltage (VDC)	24	24	24
<b>Construction</b>			
Material stirring drive	stainless steel, powder coated	stainless steel	stainless steel
Protection acc. to DIN 40050	IP 32	IP 64	IP 64
<b>Ambient conditions</b>			
Operating temperature (°C)	-10 up to +40 at 95% relative humidity	-10 up to +40 at 95% relative humidity	-10 up to +40 at 95% relative humidity
<b>Operation</b>			
Includes power supply unit	direct-controlled	direct-controlled	direct-controlled
Supply voltage / frequency	table power supply unit	table power supply unit	table power supply unit
	100 - 240 VAC / 50 - 60 Hz	100 - 240 VAC / 50 - 60 Hz	100 - 240 VAC / 50 - 60 Hz
<b>Order No.</b>	<b>31505 (115 V = 31505 U)</b>	<b>30625 (115 V = 30625 U)</b>	<b>31525 (115 V = 31525 U)</b>

## REMOTE-CONTROLLED MAGNETIC STIRRERS MULTIPLE POINT

### Remote-controlled magnetic stirrers

have the following advantages:

- Extraordinary mechanical, physical and chemical resistance
- Immersible, can be used directly in the water bath
- Highly heat-resistant - up to +50 °C directly in the water bath, up to +95 °C directly in the water bath (special), and up to +200 °C in air (on request)
- Choice of 3 control units for different types of usage (see functional description on pages 32 and 33)
- Great range of features depending on the specifications of the control unit
- Ideally suited for system integration
- Ergonomic and convenient handling of e.g. submerged magnetic stirrers
- Safe low-voltage device

### Examples of nomenclature

#### TELESYSTEM

The designs of the various models of stirring drives are identical in principle. The functions of remote-controlled VARIOMAG magnetic stirrers and their power and speed depend on the control units (see the control unit description and list of functions starting on page 32).

The remote-controlled magnetic stirrers shown in this catalogue are distinguished only by the type of control unit that is included. The following example should help illustrate this:

#### TELESYSTEM 06.07

stirring drive **TELESYSTEM 6** with control unit **TELEMODUL** (7 watts stirring power)

#### TELESYSTEM 06.20

stirring drive **TELESYSTEM 6** with control unit **TELEMODUL 20 C** (20 watts stirring power)

#### TELESYSTEM 06.40

stirring drive **TELESYSTEM 6** with control unit **TELEMODUL 40 C** (40 watts stirring power)

### TELESYSTEM 06.07 TELESYSTEM 15.07 TELESYSTEM 60.07

Ideally suited for chemical, biotechnological and medical applications as well as for mass screenings

- Wear-free inductive VARIOMAG drive, effectiveness increased by microprocessor control
- Remote-controlled by separate control unit
- 6, 15 or 60 stirring points
- Speeds of 130 to 1.000 rpm
- Automatic start-up for safe acceleration of the magnetic stirrer
- Stirring volume up to 800 ml
- Suitable for 6 x 1.000 ml Erlenmeyer flasks (**TELESYSTEM 6** and **15**) or for 15 x 250 ml glass beakers (**TELESYSTEM 6** and **15**) or for 60 sampling vessels or test tubes (**TELESYSTEM 60**)
- Suitable also for other types or sizes of receptacles
- Large, easy-to-clean working surface
- Hermetically sealed stainless steel housing, making it inaccessible to water, dust or microorganisms; easy-to-clean housing with no cracks, joints or edges
- Ideally for use under conditions of high ambient humidity or in aggressive media
- Can be cleaned under running water
- Ideally suited for operation directly in water baths (up to +50 °C)
- Versions for operation directly in water baths (up to +50 °C) or at up to +200 °C in air are optionally available
- Sturdy and indestructible
- Limited suitability for use in incubators or climatic chambers
- Includes **TELEMODUL** control unit (stirring power 7 watts)

For technical specifications and a functional description of the **TELEMODUL** control unit, please refer to page 32.



**TELESYSTEM 06.20**  
**TELESYSTEM 15.20**  
**TELESYSTEM 60.20**

Identical with **TELESYSTEM 06.07, 15.07, 60.07** with regard to dimensions, features, and technology, but:

- Inclusive control unit **TELEMODUL 20 C** (20 watts stirring power)
- Extended speeds of 130 to 1:400 rpm
- Up to 1.500 ml stirring volume
- Suitable for use in incubators and climatic chambers, since the stirring power can be reduced to 5 watts (25%), so that the magnetic stirrer gives off very little heat.



For technical specifications and a functional description of the **TELEMODUL** control unit, please refer to page 32.



**+++ ACCESSORIES**

**EXTENSION CORD** for stirring drive

**KOMET STIRRING BARS**

**TRANSPARENT BATH MOUNT**

**STAINLESS STEEL BATH MOUNT**

**TEST TUBE RACK**

For further information see page 37

**TELESYSTEM 06.40**  
**TELESYSTEM 15.40**  
**TELESYSTEM 60.40**

Identical with **TELESYSTEM 06.07, 15.07, 60.07** with regard to dimensions, features, and technology, but:

- Includes **TELEMODUL 40 C** control unit (stirring power 40 watts)
- Wide speed range of 100 to 2.000 rpm
- Up to 3.000 ml stirring volume
- Ideally suited for use in **incubators and climatic chambers**, as the stirring power can be reduced to 4 watts (10%). This ensures an **extremely low heating up** of the magnetic stirrer.

**TECHNICAL DATA**

	TELESYSTEM			TELESYSTEM			TELESYSTEM		
	06.07	15.07	60.07	06.20	15.20	60.20	06.40	15.40	60.40
Number of stirring points	6	15	60	6	15	60	6	15	60
Distance between stirring points (mm)	130	65	32,5	130	65	32,5	130	65	32,5
Stirring volume per stirring point (ml)	1 - 800	1 - 500	0,1 - 10	1 - 1.500	1 - 1.000	0,1 - 50	1 - 2.000	1 - 1.200	0,1 - 100
Stirring power (W)	7			5 / 10 / 15 / 20 (4 levels)			4 - 40 (10 levels)		
Speed range (1/min)	130 - 1.000			130 - 1.400			100 - 2.000		
Dimensions WxDxH (mm)	240 x 420 x 35			240 x 420 x 35			240 x 420 x 35		
Weight (stirring drive) (kg)	7,5			7,5			8		
Operating voltage (VDC)	12			20			36		
<b>Construction</b>									
Material stirring drive	stainless steel			stainless steel			stainless steel		
Protection acc. to DIN 40050	IP 68			IP 68			IP 68		
<b>Ambient conditions</b>									
Operating temperature (°C)	-10 up to +56 at 100% relative humidity			-10 up to +56 at 100% relative humidity			-10 up to +56 at 100% relative humidity		
Operating temperature in water (°C)	0 up to +50			0 up to +50			0 up to +50		
<b>Control unit</b>									
Operation	remote-controlled			remote-controlled			remote-controlled		
Includes TELEMODUL	Standard			20 C			40 C		
Supply voltage / frequency	115 or 230 VAC / 50 - 60 Hz			100 - 240 VAC / 50 - 60 Hz			100 - 240 VAC / 50 - 60 Hz		
<b>Order No.</b>	40607	41507	46007	40620	41520	46020	40640	41540	46040
	(115 V=	(115 V=	(115 V=	(115 V=	(115 V=	(115 V=	(115 V=	(115 V=	(115 V=
	40607 U)	41507 U)	46007 U)	40620 U)	41520 U)	46020 U)	40640 U)	41540 U)	46040 U)

**DIRECT-CONTROLLED MAGNETIC STIRRERS,  
SINGLE-POINT FOR VOLUMES UP TO 150 LITRES****Direct-controlled  
magnetic stirrers**

have the following advantages:

- Simple operation
- Inexpensive
- Space economy
- Safe low-voltage device

**+++ ACCESSORIES****KOMET STIRRING BARS****STIRRING BAR REMOVER, LARGE**

For further information see page 37

**MOBIL DIRECT**

Ideally suited for use in pilot plants, for thick-bottomed stirring vessels, for round flasks and for double-walled vessels

- Very powerful magnetic stirrer for stirring volumes up to 150 litres
- Low-wear disc motor
- Ultra-flat design
- Direct-controlled
- Speeds of 100 to 1.000 rpm
- Stirring power 40 watts
- Automatic start-up for safe acceleration of the magnetic stirrer
- Quick-stop function stops drive within 3 seconds without after-run, for improved safety and to prevent breakage
- Large working surface
- Far-reaching magnetic field, particularly suitable for highly viscous media
- High-energy samarium-cobalt (SmCo) actuation magnet firmly connected to stirring bar, works over distances of up to 60 mm
- Sealed in a resistant stainless steel housing, thus suitable for use under conditions of high ambient humidity
- Can be cleaned under running water



# REMOTE-CONTROLLED MAGNETIC STIRRERS, SINGLE-POINT FOR VOLUMES UP TO 150 LITRES



## MOBIL WITH CENTRE HOLE

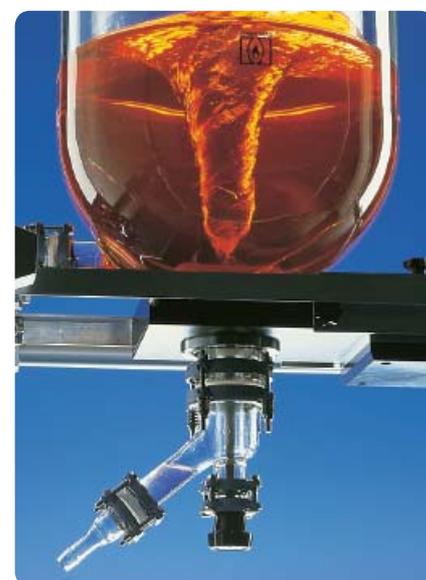
Powerful magnetic stirrer for bioreactors with a capacity of up to 150 litres with a draining hole at the bottom

- Centre hole for vessels with draining hole
- No stirring shaft, no high-maintenance shaft exit
- Sterile stirring, no contamination
- No vibrations
- Up to 150 litres, dependent on the control unit
- Additional details and options on request

## Remote-controlled magnetic stirrers

have the following advantages:

- Choice of 2 control units for different types of usage (see functional description on page 35)
- Great range of features depending on the specifications of the control unit
- Ideally suited for integration in pilot plants
- Ergonomic and convenient handling of e.g. submerged magnetic stirrers
- Safe low-voltage device



### ACCESSORIES

**KOMET STIRRING BARS**

**STIRRING BAR REMOVER**

**EXTENSION CORD for MOBIL**

For further information see page 37



### HINT

Please order control unit **TELEMODUL 40 M** Order No. 90540 (115 V = 90540 U) or **TELEMODUL 80 M** Order No. 90580 (115 V = 90580 U) separately. For further information see page 35.

### TECHNICAL DATA

	MOBIL DIRECT	MOBIL WITH CENTRE HOLE	
		Ø 50	Ø 80
Number of stirring points	1	1	
Stirring volume per stirring point (l)	1 - 150	1 - 150	1 - 50
Stirring power (W)	40	40 or 80	
Speed range (1/min)	100 - 1.000	100 - 1.000	
Maximum torque (shaft) (Ncm)	30	15 (30 with TELEMODUL 80 M)	
Dimensions WxDxH (mm)	330 x 330 x 80	180 x 425 x 75	200 x 425 x 75
Weight (stirring drive) (kg)	16	8	12
Overheating protection (°C)	75	75	
Operating voltage (VDC)	24 VAC	24	
<b>Construction</b>			
Housing material	stainless steel	aluminium	
Protection acc. to DIN 40050	IP 64	IP 42	
Control cable (m)	-	2	
<b>Ambient conditions</b>			
Ambient temperature (°C)	-10 up to +40 at 95% relative humidity	-10 up to +40 in dry air	
<b>Supply unit / Control unit</b>			
Operation	direct-controlled	remote-controlled	
	incl. table power supply unit 24 VAC	order separately	
Supply voltage / frequency	115 or 230 VAC / 50 - 60 Hz	115 or 230 VAC / 50 - 60 Hz	
<b>Order No.</b>	<b>36103 (115 V = 36103 U)</b>	<b>55001</b>	<b>58001</b>

**Remote-controlled magnetic stirrers**

have the following advantages:

- Extraordinary mechanical, physical and chemical resistance
- Choice of 2 control units for different types of usage (see functional description on page 35)
- Great range of features, depending on the specifications of the control units
- Ideally suited for system integration
- Ergonomic and convenient handling of e.g. submerged magnetic stirrers
- Safe low-voltage device

**MOBIL 200**

Ideally suited for use in pilot plants, for thick-bottomed stirring vessels, for round flasks and for double-walled vessels

- Very powerful magnetic stirrer for stirring volumes up to 200 litres
- Low-wear disc motor
- Ultra-flat design, easy to integrate in process units
- Remote-controlled
- Speeds of 100 to 1.000 rpm (control unit)
- Stirring power 40 watts or 80 watts depending on the type of control unit used
- Continuously adjustable automatic start-up for safe acceleration of the magnetic stirrer (control unit)
- Quick-stop function stops drive within 3 seconds without after-run, for improved safety and to prevent breakage
- Far-reaching magnetic field, particularly suitable for highly viscous media
- High-energy samarium-cobalt (SmCo) actuation magnet, for strong coupling to stirring bar, stir even at distances of up to 60 mm
- Sealed in a resistant stainless steel housing, thus suitable for use under conditions of high ambient humidity
- Can be cleaned under running water
- Overload protection turns off magnetic stirrer before it overheats

**+ HINT**

Please order control unit **TELEMODUL 40 M** Order No. 90540 (115 V = 90540 U) or **TELEMODUL 80 M** Order No. 90580 (115 V = 90580 U) separately.  
For further information see page 35.



## MOBIL 600

Identical with **MOBIL 200** in design, function and features, but:

- Extremely powerful magnetic stirrer for stirring volumes up to 600 litres
- Large working surface



### ACCESSORIES

**STAND**, with rollers, anchors for magnetic stirrer, and massive frame for stirring vessel (**MOBIL 200** only)

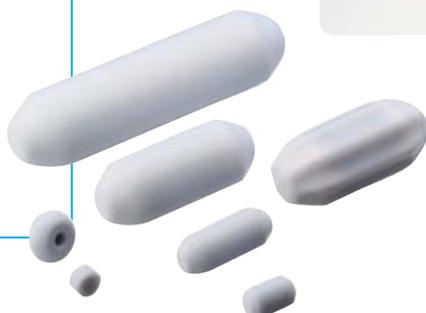
**SCREW-FASTENED MOUNT** for attaching the control unit to the stand (**MOBIL 200** only)

**KOMET STIRRING BARS**

**STIRRING BAR REMOVER**

**EXTENSION CORD** for MOBIL

For further information see page 37



### HINT

Please order control unit **TELEMODUL 40 M** Order No. 90540 (115 V = 90540 U) or **TELEMODUL 80 M** Order No. 90580 (115 V = 90580 U) separately. For further information see page 35.

### TECHNICAL DATA

TELEMODUL	MOBIL 200		MOBIL 600	
	40 M	80 M	40 M	80 M
Number of stirring points	1		1	
Stirring volume per stirring point (l)	1 - 150	1 - 200	1 - 450	1 - 600
Stirring power (W)	40	80	40	80
Speed range (1/min)	100 - 1.000		100 - 1.000	
Maximum torque (shaft) (Ncm)	30	50	30	50
Dimensions WxDxH (mm)	180 x 180 x 80		330 x 330 x 80	
Weight (stirring drive) (kg)	6		16	
Overheating protection (°C)	75		75	
Operating voltage (VDC)	24		24	
<b>Construction</b>				
Housing material	stainless steel		stainless steel	
Protection acc. to DIN 40050	IP 65		IP 65	
Control cable (m)	2		2	
<b>Ambient conditions</b>				
Ambient temperature (°C)	-10 up to +56 at 100% relative humidity		-10 up to +56 at 100% relative humidity	
<b>Control unit</b>				
Operation	remote-controlled		remote-controlled	
Supply voltage / frequency	115 or 230 VAC / 50 - 60 Hz		115 or 230 VAC / 50 - 60 Hz	
<b>Order No.</b>	<b>56101</b>		<b>56102</b>	

## DIRECT-CONTROLLED MAGNETIC STIRRERS FOR CELL SUSPENSIONS AND TISSUE CULTURES

### Direct-controlled magnetic stirrers

have the following advantages:

- Simple operation
- Inexpensive
- Space economy
- Safe low-voltage device

### ACCESSORIES

#### CELL CULTURE FLASKS

**12 V CAR CONNECTION CABLE**  
(only **BIOSYSTEM DIRECT**)

For further information see page 44

### BIOSYSTEM DIRECT

For mixing microcarrier cultures, culture broths, and cell suspensions without destroying the cells

- Stirring bars turn very evenly and without jerking
- Direct-controlled
- Speeds of 5 to 120 rpm
- Automatic start-up for safe acceleration of the magnetic stirrer
- Stirring volume 25 to 5.000 ml
- Compact, flat design
- Sealed in a resistant stainless steel housing, thus suitable for use under conditions of high ambient humidity
- Impermeable to microorganisms; meets the hygienic requirements of the German safety regulations for genetic engineering
- Can be cleaned under running water
- Inexpensive



### BIOSYSTEM 4 DIRECT

Identical with **BIOSYSTEM DIRECT** with regard to features, technology and applications, but with:

- 4 synchronized stirring points, rectangular arrangement
- Stirring volume up to 4 x 2.000 ml

### HINT

The suitability of direct-controlled magnetic stirrers for use in incubators is limited, because the stirring power cannot be reduced. In addition, the integrated electronics heat the magnetic stirrer additionally.



# REMOTE-CONTROLLED MAGNETIC STIRRERS FOR CELL SUSPENSIONS AND TISSUE CULTURES



## BIOSYSTEM

For mixing microcarrier cultures, culture broths, and cell suspensions without destroying the cells

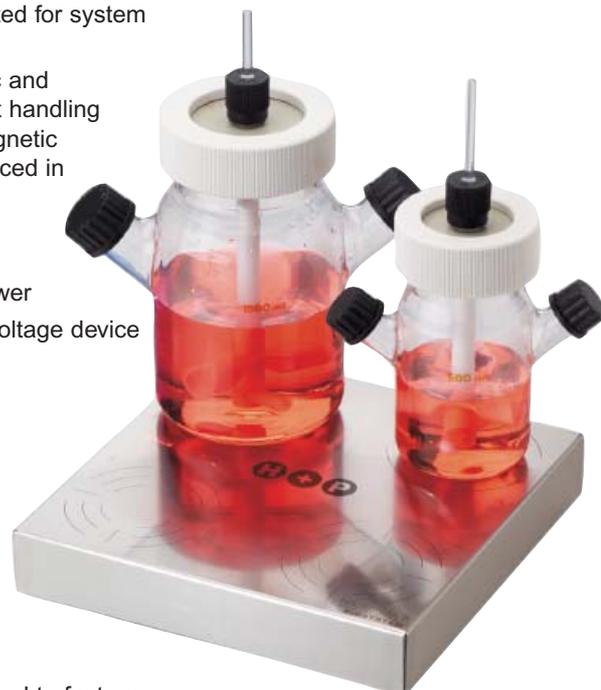
- Stirring bars turn very evenly and without jerking
- Remote-controlled by separately available **BIOMODUL 40 B** control unit
- Ideally suited for long-term heatless use even in CO<sub>2</sub> incubators
- Speeds of 5 to 1.000 rpm
- Automatic start-up for safe acceleration of the stirring bar
- Stirring volume 25 to 20.000 ml
- Compact, flat design
- Sealed in a resistant stainless steel housing, thus suitable for use under conditions of high ambient humidity or directly in temperature-controlled water baths
- Impermeable to microorganisms; meets the requirements of the German safety regulations for genetic engineering
- Can be cleaned under running water
- Two drives may be synchronized (see data on **BIOMODUL 40 B** control unit on page 36)

For technical specifications and a functional description of the **BIOMODUL 40 B** control unit please refer to page 36.

## Remote-controlled magnetic stirrers

have the following advantages:

- Extraordinary mechanical, physical and chemical resistance
- Immersible, suited for operation direct in water baths
- Wide range of features
- Ideally suited for system integration
- Ergonomic and convenient handling of e.g. magnetic stirrers placed in incubators
- Continuous adjustable stirring power
- Safe low-voltage device



### + HINT

Please order **BIOMODUL 40 B** control unit **Order No. 90740** (115 V = **90740 U**) separately.

## BIOSYSTEM 4

Identical with **BIOSYSTEM 1** with regard to features, technology and applications, but with:

- 4 synchronized stirring points, rectangular arrangement (linear arrangement optionally available)
- Stirring volume up to 4 x 5.000 ml

## TECHNICAL DATA

	BIOSYSTEM DIRECT	BIOSYSTEM 4 DIRECT	BIOSYSTEM	BIOSYSTEM 4
Number of stirring points	1	4	1	4
Distance between stirring points	-	185	-	185
Stirring volume per stirring point (ml)	25 - 5.000	25 - 2.000	25 - 20.000	25 - 5.000
Stirring power (W)	1	4 x 0,5	0,4 - 4	0,4 - 4
Speed range (1/min)	5 - 120	5 - 120	5 - 120	5 - 120
Dimensions WxDxH (mm)	180 x 180 x 60	330 x 330 x 60	180 x 180 x 60	330 x 330 x 60
Weight (kg)	3,4	11	3,4	9,4
Operating voltage (VDC)	12	18	30	30
<b>Construction</b>				
Housing material	stainless steel	stainless steel	stainless steel	stainless steel
Protection acc. to DIN 40050	IP 64	IP 64	IP 68	IP 68
<b>Ambient conditions</b>				
Operating temperature (°C)	-10 up to +40 at 95% relative humidity	-10 up to +40 at 95% relative humidity	-10 up to +56 at 100% relative humidity	-10 up to +56 at 100% relative humidity
Operating temperature in water (°C)	-	-	0 up to +50	0 up to +50
<b>Supply unit / Control unit</b>				
Operation	Supply unit direct-controlled	Supply unit direct-controlled	Control unit remote-controlled	Control unit remote-controlled
Includes power supply unit	power supply unit 12 VDC	table power supply unit 20 VDC	order separately	order separately
Supply voltage / frequency	115 or 230 VAC / 50 - 60 Hz	115 or 230 VAC / 50 - 60 Hz	115 or 230 VAC / 50 - 60 Hz	115 or 230 VAC / 50 - 60 Hz
<b>Order No.</b>	<b>70107 (115 V = 70107 U)</b>	<b>70420 (115 V = 70420 U)</b>	<b>70100</b>	<b>70400</b>

**Remote-controlled  
magnetic stirrers**

require a separate control unit. In principle, the VARIOMAG stirring drives are identical.

Using different control units greatly influences the available features and the technological options the stirring drives offer.

Three control units with different specifications and features are available for VARIOMAG Magnetic Stirrers with inductive drives:

**TELEMODUL**

Convenient, small control unit with a **rated stirring power of 7 watts**

- Microprocessor controlled for maximum efficiency
- Continuous speed selection, OFF position
- Speeds of 130 to 1.000 rpm
- Automatic start-up for safe acceleration of the magnetic stirrer
- For small to medium stirring volumes of low-viscosity liquids

**TELEMODUL 20 C**

Control unit for universal application with **20 watts rated stirring power** and special ease of operation

- Microprocessor controlled for maximum efficiency
- Crystal-controlled speeds and stirring times
- User-friendly, menu-driven settings adjustment
- Single-hand operation - just turn and press the adjustment wheel
- Large graphic display - all settings readable at a glance
- Extended speeds of 130 to 1.400 rpm
- Four different power settings (25% / 50% / 75% / 100%), with more power for larger quantities and more viscous liquids and reduced power for long-term operation, largely without heat generation
- 20 watts rated stirring power
- Three individually programmable program keys for rapid startup - the last settings in effect are stored automatically
- Intermittent operation with freely adjustable stirring and pause times and rotation sense inversion (5 seconds to 1 hour)
- START/STOP key for recentring, safe starting, and rapid stopping of the stirring bar
- Vertical mixing (shake mode)
- Stirring bar rotates evenly, even at low speeds
- Three different settings (1x, 2x, 4x) for safe starting acceleration of the stirring bar, even in highly viscous liquids
- User interface in four languages (English, French, German, Spanish)
- Universal power supply for 100 - 240 VAC / 50 - 60 Hz



## TELEMODUL 40 C

Powerful control unit with **40 watts rated stirring power** for demanding stirring tasks. Identical with **TELEMODUL 20 C** with regard to dimensions and features, but:

- Extra wide speed range of 100 to 2.000 rpm
- Ten different power settings (10% to 100%) with more power for larger quantities and more viscous liquids and reduced power for long-term operation without heat generation
- Ideal for controlling magnetic stirrers in incubators
- 40 watts rated stirring power
- RS-232 interface for PC data transfer and PC control
- TCP-IP network integration on request
- Universal power supply for 100 - 240 VAC / 50 - 60 Hz



### HINT

Because of its high output, **MINI**, **MICRO** and **COMPACT** must be connected by a **BENCHTOP DISTRIBUTOR 4-FOLD**

### ACCESSORIES

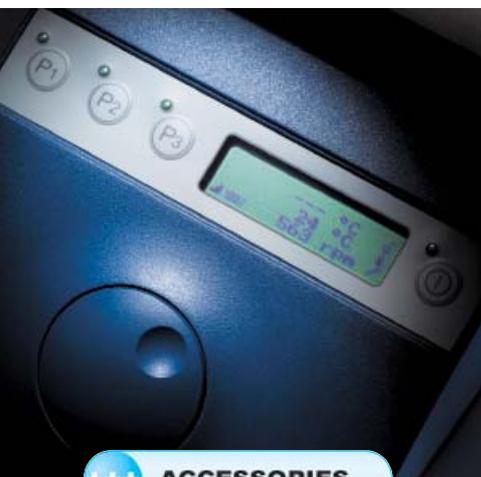
- BENCHTOP DISTRIBUTOR 4-FOLD**
- BENCHTOP DISTRIBUTOR 8-FOLD**
- EXTENSION CORD** for stirring drive

For further information see page 41

### TECHNICAL DATA

	TELEMODUL	TELEMODUL 20 C	TELEMODUL 40 C
Speed range (1/min)	130 - 1.000	130 - 1.400	100 - 2.000
Speed constancy (%)	+/- 3	+/- 1	+/- 1
Rated power (W)	7	20	40
Stirring power relative to rated power (%)	100	25 / 50 / 75 / 100 (4 levels)	10 - 100 (10 levels)
Output voltage (VDC)	12	20	36
Dimensions WxDxH (mm)	63 x 96 x 50	155 x 165 x 95	155 x 165 x 95
Weight (kg)	0,4	0,6	0,7
Ambient temperature (°C)	0 up to +40 at 80% relative humidity	0 up to +40 at 80% relative humidity	0 up to +40 at 80% relative humidity
Supply voltage	115 or 230 VAC / 50 - 60 Hz	100 - 240 VAC / 50 - 60 Hz	100 - 240 VAC / 50 - 60 Hz
Mark of conformity	protection class 2 IP 20 VDE approved	IP 30 -	IP 30 -
Stirring times	-	5 s up to 60 min	5 s up to 60 min
Pause times	-	5 s up to 60 min	5 s up to 60 min
<b>Order No.</b>	<b>90407 (115 V = 90407 U)</b>	<b>90430 (115 V = 90430 U)</b>	<b>90450 (115 V = 90450 U)</b>

**Remote-controlled magnetic stirrers** of type **VARIOMAG STIRRING BLOCK THERMOSTATS, MULTITHERM** and **REACTION BLOCKS** require the use of the **TELEMODUL 40 CT** control unit.



#### ACCESSORIES

##### PT 100 external temperature sensor

- For direct control of the liquid temperature
- Stainless steel jacket

For further information see page 41



Housing for 1.000 watts (230 V) and 500 watts (115 V) heating power

## TELEMODUL 40 CT

Powerful control unit with **40 watts rated stirring power** and electronic temperature control for electrical heating systems of up to +200 °C

- Microprocessor controlled for maximum efficiency
- User-friendly, menu-driven settings adjustment
- Convenient single-hand operation - just turn and press the adjustment wheel
- Large graphic display - all settings readable at a glance
- Three individually programmable program keys for rapid startup - the last settings in effect are stored automatically
- User interface in four languages (English, French, German, Spanish)
- RS-232 interface for PC data transfer and PC control
- TCP-IP network integration on request
- Integrated universal power supply for 100 - 240 VAC / 50 - 60 Hz

### Stirrer control

- Extra wide speed range of 100 to 2.000 rpm
- Eight different power settings (30% to 100 %) with more power for larger quantities and more viscous liquids and reduced power for long-term operation without heat generation
- 40 watts rated stirring power
- Intermittent operation with freely adjustable stirring and pause times (5 seconds to 1 hour) and rotation sense inversion
- START/STOP key for recentring, safe starting, and rapid stopping of the stirring bar
- Vertical mixing (Shake mode = oscillating stirring bar movements)
- Stirring bar rotates evenly, even at low speeds
- Three different settings (1x, 2x, 4x) for safe starting acceleration of the stirring bar, even in highly viscous liquids

### Heater control

- Electrical heating unit for up to +200 °C in 1 K increments
- Additional independent temperature control loop, turn-off temperature adjustable at the back of the unit (safety loop for unattended operation)
- Liquid temperature control using optional PT 100 external temperature sensor (see Accessories)
- Control hysteresis between 0.5 K and 10 K in 0.5 K increments
- Timer for block operation up to 8 hours



# CONTROL UNITS FOR MOBIL 200 / 600 / CENTRE HOLE FOR LARGE VOLUMES UP TO 600 LITRES



**MOBIL** remote-controlled magnetic stirrers require a separate control unit.

Two control units with different specifications and features are available for **MOBIL 200**, **MOBIL 600** and **MOBIL WITH CENTRE HOLE** magnetic stirrers:

## TELEMODUL 40 M

Universal control unit with **40 watts rated stirring power**

- Continuously adjustable speed
- Speeds of 100 to 1.000 rpm
- Digital display to facilitate exact speed settings
- Automatic start-up for safe acceleration of the magnetic stirrer
- Adjustable startup times for adapting the automatic start up to different viscosities and volumes
- Highly constant speeds even if the viscosity changes
- START/STOP key for convenient safe starting and rapid stopping of the stirring drive
- Quick-stop function stops drive within 3 seconds without after-run, for improved safety and to prevent breakage
- Integrated timer for up to 60 minutes operation
- Thermal and electrical overload protection with fault indicator, actuated at 75 °C



## TELEMODUL 80 M

Powerful control unit with increased rated stirring power for the most demanding stirring tasks. Identical with **TELEMODUL 40 M** regard to dimensions and features, but with **80 watts rated stirring power**.

### TECHNICAL DATA

		TELEMODUL 40 CT Designer High-power	TELEMODUL 40 M	TELEMODUL 80 M
Speed range	(1/min)	100 - 2.000	100 - 1.000	100 - 1.000
Speed constancy	(%)	+/- 1	+/- 1	+/- 1
Rated power	(W)	12 - 40 (8 levels)	80	-
Adjustable heating power	(W)	up to 1.000 (115 VAC = 500) up to 2.000 (115 VAC = 1.000)	-	-
Dimensions	WxDxH (mm)	155 x 270 x 100    255 x 180 x 90	180 x 180 x 70	180 x 180 x 70
Weight	(kg)	1,7	3,5	4,0
Ambient temperature	(°C)	0 up to +40 at 80% relative humidity	0 up to +40 at 80% relative humidity	0 up to +40 at 80% relative humidity
Supply voltage		100 - 240 VAC / 50 - 60 Hz	115 or 230 VAC / 50 - 60 Hz	115 or 230 VAC / 50 - 60 Hz
Output voltage	(VDC)	36	30	30
Mark of conformity		protection class 1 IP 30	protection class 1 IP 30	protection class 1 IP 30
Stirring times		5 s up to 60 min	5 s up to 60 min or continuous	5 s up to 60 min or continuous
Pause times		5 s up to 60 min	-	-
Starting time		3 levels	5 s up to 60 s	5 s up to 60 s
<b>Order No.</b>		<b>60690</b> <b>90691</b> (115 V = 90690 U) (115 V = 90691 U)	<b>90540</b> (115 V = 90540 U)	<b>90580</b> (115 V = 90580 U)

## CONTROL UNIT FOR BIOSYSTEM FOR CELL SUSPENSIONS AND TISSUE CULTURES

### Remote-controlled magnetic stirrers

require a separate control unit. In principle, the VARIOMAG stirring drives are identical.

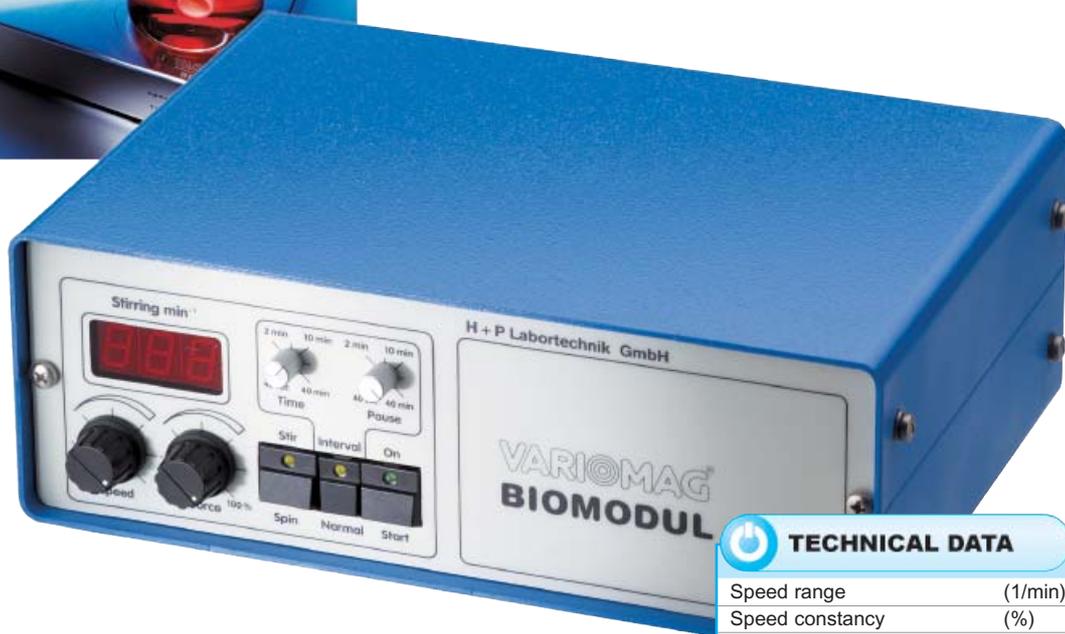
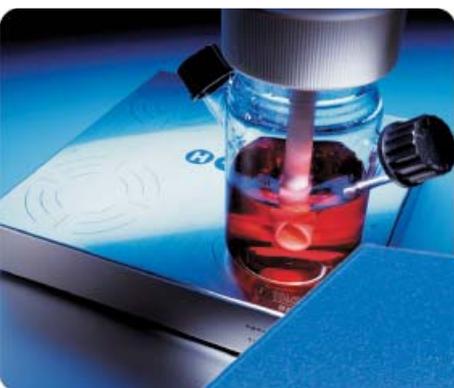
Using different control units greatly influences the available features and the technological options the stirring drives offer.

**BIOSYSTEM** remote-controlled magnetic stirrers require a separate control unit.

### BIOMODUL 40 B

Powerful control unit for universal application with **40 watts rated stirring power** and special ease of operation

- Continuously adjustable speed
- Speeds of 5 to 120 rpm
- Digital display to facilitate exact speed settings
- Automatic start-up for safe acceleration of the magnetic stirrer
- START/STOP key for convenient safe starting and rapid stopping of the stirring drive
- Continuously adjustable power settings with more power for larger quantities and more viscous liquids or higher speeds, and reduced power for long-term operation without heat generation
- Ideal for controlling magnetic stirrers in incubators
- Intermittent operation with freely adjustable stirring and pause times (40 seconds to 40 minutes) and individually activated rotation sense inversion
- Second outlet allows synchronized operation of two stirring drives



### HINT

If two stirring drives are attached, the available maximum stirring power for each stirring drive is half the rated value

### TECHNICAL DATA

		BIOMODUL 40 B
Speed range	(1/min)	5 - 120
Speed constancy	(%)	+/- 1
Rated power	(W)	4 - 40
Output voltage	(VDC)	30
Dimensions	WxDxH (mm)	255 x 180 x 90
Weight	(kg)	3,5
Ambient temperature	(°C)	0 up to +40 at 80% relative humidity
Supply voltage		115 or 230 VAC / 50 - 60 Hz
Mark of conformity		protection class 1 IP 30
<b>Order No.</b>		<b>90740 (115 V = 90740 U)</b>

**KOMET 15**  
**KOMET 30**  
**KOMET (octagonal)**  
**KOMET 50**  
**KOMET 90**

The new, extra-strong **KOMET** magnetic stirring bars give all magnetic stirrers - and especially VARIOMAG Magnetic Stirrers - excellent stirring power.

- High-energy magnetic material (SmCo)
- More than three times the torque of conventional stirring bars
- Greatly enhanced performance and range of applications of magnetic stirrers
- Excellent mixing action with viscous media or higher speeds of up to 2.000 rpm and beyond, even if the stirring vessel has a convex bottom or with greater distances between the stirring bar and the magnetic stirrer
- Permanently stable magnetic field, no demagnetization caused by mechanical impact or external magnetic fields
- PTFE-coated
- Even surface, no residue deposits
- Steam-sterilizable up to 121 °C
- Typical cone-shaped tip prevents confusion with conventional stirring bars
- Five different models for different types of stirring vessels and applications
- Two models specially designed for test tubes (**KOMET Magnetic Stirring Discs and Rings**)



**KOMET Magnetic Stirring Discs and Rings**

For the first time, thanks to the flat **KOMET** magnetic stirring discs, excellent stirring results across the entire filling level are now possible even in test tubes.

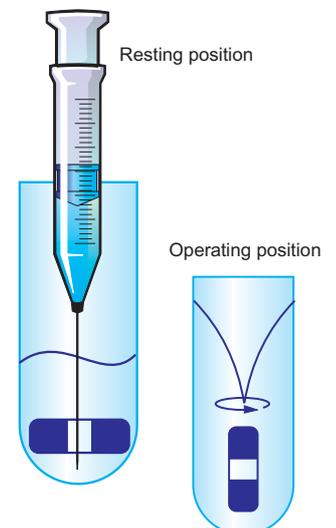
**KOMET 8 S** Stand-Up Disc

- Suitable for reaction vessels from Ø 12 mm
- Large stirring area due to vertical operation

**KOMET 16 R** Stand-Up Ring

- Suitable for reaction vessels from Ø 20 mm
- Central bore (ring) so the sample can be removed from the bottom of the reaction vessel by guiding a cannula through the aperture

TECHNICAL DATA			
<b>KOMET 90</b>	Round shape	Ø 25 mm L 90 mm	<b>Order No. 90790</b>
<b>KOMET 50</b>	Round shape	Ø 21 mm L 50 mm	<b>Order No. 90751</b>
<b>KOMET</b>	Octagonal	Ø 21 mm L 50 mm	<b>Order No. 90750</b>
<b>KOMET 30</b>	Round shape	Ø 13 mm L 30 mm	<b>Order No. 90730</b>
<b>KOMET 15</b>	Round shape	Ø 9 mm L 15 mm	<b>Order No. 90715</b>
<b>KOMET 16 R</b>	Stand-Up Ring	Ø 14 mm B 8 mm	<b>Order No. 90714</b>
<b>KOMET 8 S</b>	Stand-Up Disc	Ø 8 mm B 4 mm	<b>Order No. 90708</b>

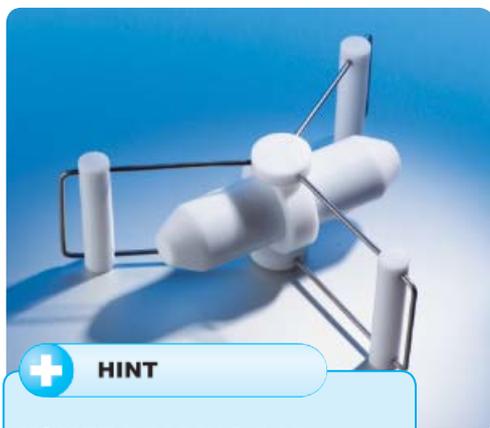


**SPECIAL MAGNETIC STIRRING BARS**

**KOMET BEARING-BAR**, **KOMET GLIDE-RING** and **KOMET TWIN-BAR** were specially developed for use under excruciating circumstances, such as when stirring vessels feature rough plastic or stainless steel bottoms or if the media to be stirred contain solids.

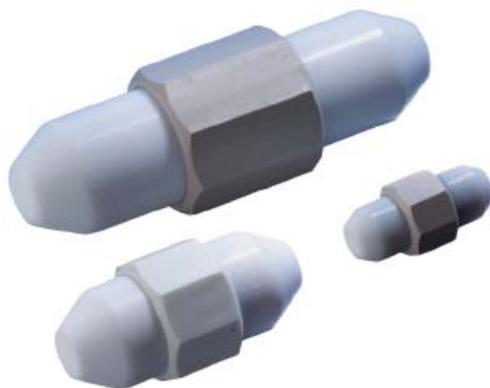
**KOMET BEARING-BAR**

- **KOMET 90** extra strong magnetic stirring bar, three-legged bearing
- Strong mixing action without direct contact with the bottom of the vessel, hence no abrasion
- Longer life of the stirring bars, since the PTFE coating of the stirring vessel - which due to technical constraints cannot possibly be wear-proof - is no longer abraded



**HINT**

**KOMET BEARING-BAR** is suitable for low to medium speeds



**KOMET 30 GLIDE-RING**  
**KOMET 50 GLIDE-RING**  
**KOMET 90 GLIDE-RING**

- Super-strong magnetic stirring bars with wear-resistant glide ring
- Longer life of the stirring bars, since the soft PTFE coating of the stirring vessel - which due to technical constraints cannot possibly be wear-proof - is no longer abraded
- The glide ring consists of a newly developed plastic material whose properties are nearly identical with those of PTFE, while at the same time offering substantially better wear resistance.
- Available in three different lengths

**KOMET TWIN-BAR**

- Extra strong dual magnetic stirring bar with two **KOMET 90**
- Very strong mixing action without direct contact with the bottom of the vessel, hence no abrasion
- Longer life of the stirring bars, since the soft PTFE coating of the stirring vessel - which due to technical constraints cannot possibly be wear-proof is no longer abraded and destroyed
- Positioned on a bearing peg to be attached to the bottom or lid of the vessel
- Bearing peg ensures central position

**HINT**

The bearing peg required for centring is not included.



**Combinations of magn**

Type		MINI	MICRO
<b>Magnetic stirring bars of high-energy magnets</b>			
<b>Round shape</b>	<b>Ø x L (mm)</b>		
KOMET 15	9 x 15	-	+
KOMET 30	13 x 30	-	+
KOMET 50	21 x 50	-	-
KOMET 90	25 x 90	-	-
<b>Octagonal</b>	<b>Ø x L (mm)</b>		
KOMET	21 x 50	-	-
<b>Disc shape</b>	<b>Ø x B (mm)</b>		
KOMET 16 R	14 x 8	-	-
KOMET 8 S	8 x 4	+	+
<b>Magnetic stirring bars of standard magnetic magnets</b>			
<b>Round shape</b>	<b>Ø x L (mm)</b>		
	1 x 4	++	-
	2 x 5	++	-
	3 x 8	o	-
	5 x 15	-	-
	6 x 30	-	-
	8 x 40	-	-
	8 x 50	-	-
	10 x 80	-	-
	27 x 110	-	-
	27 x 160	-	-
<b>Elliptical shape</b>	<b>Ø x L (mm)</b>		
	19 x 75	-	-
<b>Profiled disc</b>	<b>Ø x L (mm)</b>		
	10 x 8	o	-
	14 x 10	-	-
<b>Cross shape</b>	<b>✕ x H (mm)</b>		
	12 x 5	o	-
	32 x 12	-	-
<b>Triangular shape</b>	<b>Δ x L (mm)</b>		
	8 x 25	-	-
	10 x 35	-	-
	14 x 25	-	+
	14 x 42	-	-
	14 x 55	-	-
	14 x 80	-	-

**TECHNICAL DATA**

<b>KOMET BEARING-BAR</b>		
Ø 25 mm	L 90 mm	Order No. 96105
<b>KOMET GLIDE-RING</b>		
<b>30</b> Ø 17 mm	L 30 mm	Order No. 90830
<b>50</b> Ø 26 mm	L 50 mm	Order No. 90850
<b>90</b> Ø 31 mm	L 90 mm	Order No. 90890
<b>KOMET TWIN-BAR</b>		
Ø 21 mm	L 50 mm	Order No. 96104

Magnetic stirring bars with VARIOMAG Magnetic Stirrers

CRO	COMPACT MAXI	MONO POLY MONOTHERM	MULTIPOINT TELESYSTEM MULTITHERM	TELESYSTEM (Test tubes)	MOBIL DIRECT MOBIL 200 MOBIL 600	STIRRING BLOCK THERMOSTAT		
Magnetic material (SmCo, PTFE-coated)							Items	Order No.
+	++	++	++	++	++	-	5	90715
+	++	++	++	++	++	-	5	90730
+	++	++	++	-	++	o	1	90751
-	o	-	-	-	-	++	1	90790
							Items	Order No.
+	++	++	++	-	++	o	1	90750
Ideally suited for all magnetic stirrers in connection with test tubes							5	90714
Ideally suited for all magnetic stirrers in connection with test tubes							5	90708
Material (AlNiCo5, PTFE-coated)							Items	Order No.
+	o	o	o	+	-	o	10	90604
+	o	o	o	+	-	o	10	90605
+	o	o	o	+	-	o	10	90608
+	+	o	o	+	-	+	10	90615
+	+	+	+	o	-	+	10	90630
+	+	+	+	o	o	+	10	90642
o	o	o	o	-	o	-	10	90650
-	-	-	-	-	o	-	10	90682
-	-	-	-	-	++	-	1	90210
-	-	-	-	-	o	-	1	90216
							Items	Order No.
o	+	+	+	-	+	-	1	90775
							Items	Order No.
+	o	o	o	+	-	+	10	90108
+	o	o	o	++	-	+	10	90110
							Items	Order No.
+	+	+	o	+	-	+	1	90109
+	+	+	+	-	o	+	1	90138
							Items	Order No.
+	+	+	+	+	-	+	10	90724
+	+	+	+	-	-	+	10	90735
+	+	+	+	+	-	++	10	90725
+	+	+	+	+	-	+	10	90742
o	o	o	o	-	o	-	10	90755
-	-	-	-	-	+	-	10	90782

Key: ++ = super + = good o = suitable - = not suitable

STIRRING BAR REMOVERS

- For inserting and removing stirring bars into and from the vessel
- Can be steam sterilized up to 121 °C

STIRRING BAR REMOVER, SMALL

- 350 mm, for small and medium magnetic stirring bars and for narrow bottlenecks
- Powerful gathering magnet, strong enough for **KOMET 50**
- PTFE-coated

STIRRING BAR REMOVER, LARGE

- 1.000 mm, can be used for narrow bottlenecks
- Very powerful gathering magnet for larger or heavier magnetic stirring bars
- User-friendly stripping bay for the stirring bar
- Stainless steel



TECHNICAL DATA

	<b>STIRRING BAR REMOVER, SMALL</b>
Order No.	96106
	<b>STIRRING BAR REMOVER, LARGE</b>
Order No.	56109

**ACCESSORIES FOR MONOTHERM**

**CONTACT THERMOMETER THERMOCONTROL 1**

- Electronic contact thermometer with fuzzy-logic control for exact liquid temperatures
- No ballistic effects of the liquid temperatures within the usual working range
- Housing protected against splashing and impervious to solvents
- No maintenance
- Compatible with third-party contact thermometers

**HINT**

Please order the power supply unit with adapter separately. Necessary for the use with MONOTHERM.

**MOUNTING CLAMP FOR THERMOCONTROL 2**

- For attaching the contact thermometer to the support rod
- Suitable for Ø 10 and 12 mm support rods

**STAINLESS-STEEL MOUNTING CLAMP FOR THERMOCONTROL 3**

- For attaching the contact thermometer to the support rod
- Suitable for Ø 10 and 12 mm support rods
- Stainless steel
- Flexible, freely placeable

**POWER SUPPLY UNIT 4**

- For **THERMOCONTROL**
- Required for use with **MONOTHERM**

**GUARD RING 5**

- Inversion option: slide protection for vessels of up to 140 or 170 mm in diameter
- Touch protection for high plate temperatures
- Includes two screw-fastened mounts for attaching to **MONOTHERM**

**SUPPORT ROD 6**

- For attaching **THERMOCONTROL**
- Stainless steel
- Ø 12 mm, 12 x 400 mm
- M10 thread bores



TECHNICAL DATA		THERMOCONTROL
Temperature range	(°C)	-50 up to +300
Resolution	(K)	1
Accuracy	(K)	± 1
Temperature sensor, material		Pt 100, 1.4571
Sensor length / Min. immersion depth (mm)		210 / 20
Connection cable		Spiral cable, approx. 1,8 m
Dimensions WxDxH	(mm)	54 x 109 x 22
Material		PA 6.6, grey
Safety DIN 12878		Class 1
<b>Order No.</b>		<b>66145</b>
		MOUNTING CLAMP
<b>Order No.</b>		<b>66147</b>
		STAINLESS STEEL MOUNTING CLAMP
<b>Order No.</b>		<b>90407</b>
		POWER SUPPLY UNIT
<b>Order No.</b>		<b>66146 (115 V = 66146 U)</b>
		GUARD RING
<b>Order No.</b>		<b>66143</b>
		SUPPORT ROD
<b>Order No.</b>		<b>66144</b>

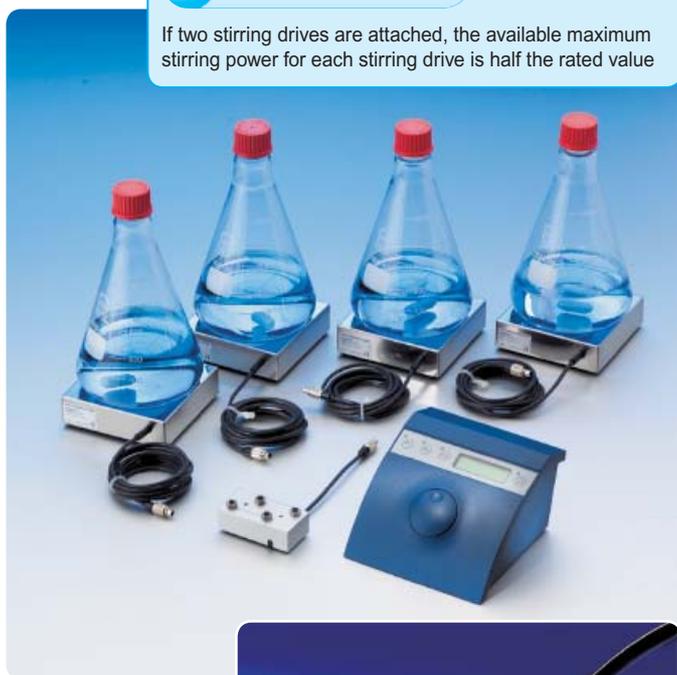
## ACCESSORIES FOR MINI, MICRO, COMPACT AND MAXI

### 4-FOLD, 8-FOLD BENCHTOP DISTRIBUTOR

- Simultaneous control of 2, 4, 6 or 8 **MINI, MICRO, COMPACT** or **MAXI** (4 only) stirring drives using a single **TELEMODUL 20 C** and **40 C** control unit.
- For absolutely identical operating conditions
- Synchronized speed
- Identical stirring power
- Space economy
- Possible combinations on request

**+ HINT**

If two stirring drives are attached, the available maximum stirring power for each stirring drive is half the rated value



## ACCESSORIES FOR MULTITHERM, STIRRING BLOCK THERMOSTATS AND REACTION BLOCKS

### PT 100 TEMPERATURE SENSOR (external)

- For **TELEMODUL 40 CT**
- Sensor for measuring and controlling liquid temperatures
- Stainless steel jacket
- Length of the cable 0.9 m
- Four-wire technology

**TECHNICAL DATA**

	<b>4-FOLD DISTRIBUTOR</b>
<b>Order No.</b>	93104
	<b>8-FOLD DISTRIBUTOR</b>
<b>Order No.</b>	93108
	<b>PT 100 TEMPERATURE SENSOR</b>
<b>Order No.</b>	66154

## ACCESSORIES FOR TELESYSTEMS

### TRANSPARENT BATH MOUNT

- Transparent acrylic bath mount
- Thick-walled, sturdy construction
- Heat-resistant up to +60 °C
- Thin-walled recess at the bottom for **TELESYSTEM 6 / 15 / 60** drives for operation at bath temperatures in excess of +50 °C for PUR-sealed stirring drives
- Crossbar for stable attachment of an immersible thermostat

### STAINLESS STEEL BATH MOUNT

- Stainless steel 1.4301
- For bath temperatures above +60 °C
- Bottom anchor for **TELESYSTEM 6 / 15 / 60** drives for operation at bath temperatures in excess of +95 °C for silicone-sealed stirring drives
- Suitable for immersible thermostats for heating or cooling

TECHNICAL DATA		TRANSPARENT BATH MOUNT	
Ext. Dimensions WxDxH	(mm)	330 x 610 x 185	
Int. Dimensions WxDxH	(mm)	270 x 590 x 140	
Weight	(kg)	7	
Bath volume	(L)	15	
Permitted bath temperature	(°C)	0 up to +60	
<b>Order No.</b>		<b>96051</b>	
TECHNICAL DATA		STAINLESS STEEL BATH MOUNT	
Ext. Dimensions WxDxH	(mm)	315 x 520 x 160	
Int. Dimensions WxDxH	(mm)	265 x 520 x 160	
Weight	(kg)	5,6	
Bath volume	(L)	15	
Permitted bath temperature	(°C)	-10 up to +200	
<b>Order No.</b>		<b>96052</b>	

### IMMERSIBLE THERMOSTAT

- Compact, powerful thermostat for both types of bath mounts. For heating, temperature control and bath liquid circulation, includes overtemperature limiter
- JULABO EC

TECHNICAL DATA		IMMERSIBLE THERMOSTAT	
		60 °C	95 °C
Temperature control accuracy (°C)		+/- 0,1	
Temperature range (°C)		+25 up to +60	+25 up to +95
Heating power (W)		2.000	
Operating voltage (VAC)		115 or 230	
Weight (kg)		4	
<b>Order No.</b>		<b>96101 (115 V = 96101 U)</b>	<b>96109 (115 V = 96109 U)</b>



#### HINT

For bath temperatures above +60 °C, the stainless steel bath mount must be used.

### TEST TUBE RACKS

- For exactly centred positioning of test tubes on the stirring points
- Rack function, can be used to carry all test tubes at once
- Two convenient handles
- Stainless steel construction, see table for standard dimensions
- Test tube racks with customized bore counts, bore layouts and bore diameters available on request



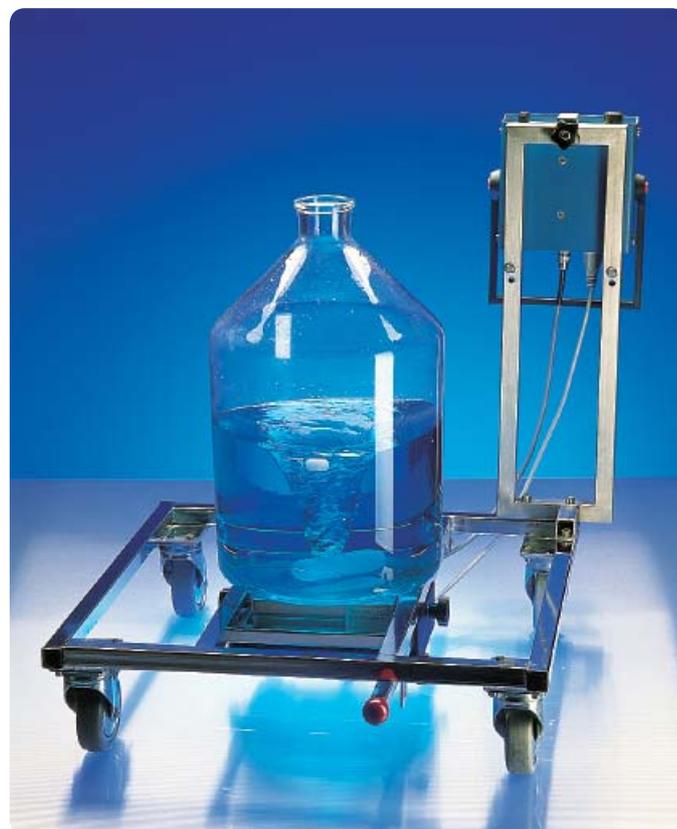
## ACCESSORIES FOR MOBIL 200

### WHEELABLE STAND

- With wheels, brackets for accommodating the magnetic stirrer, and a surface for the stirring vessels to be placed on
- Maximum load 250 kg
- Stainless steel
- Transportable by lifting truck
- Magnetic stirrer can be height-adjusted in the lower rack by 20 mm (to reduce the power of the magnetic field)
- Dimensions (WxDxH) 660 x 600 x 150 mm

### SCREW-FASTENED MOUNT

- To attach the control unit to the stand in an ergonomically acceptable and convenient working position
- Stainless steel



#### TECHNICAL DATA

			WHEELABLE STAND
Material			stainless steel
Dimensions	WxDxH	(mm)	660 x 600 x 150
<b>Order No.</b>			<b>56104</b>
			SCREW-FASTENED MOUNT
Material			stainless steel
<b>Order No.</b>			<b>56107</b>

#### TECHNICAL DATA

		TEST TUBE RACK
<b>For TELESYSTEME 60.07 • 60.20 • 60.40</b>		<b>see page 25</b>
60 bore holes, for test tubes $\varnothing$ 25 mm, pitch 32.5 mm		<b>86025</b>
60 bore holes, for test tubes $\varnothing$ 20 mm, pitch 32.5 mm		<b>86020</b>
60 bore holes, for test tubes $\varnothing$ 16 mm, pitch 32.5 mm		<b>86016</b>

Test tube racks with different bore counts, pitch and different bore hole diameters on request.

## ACCESSORIES FOR BIOYSTEME

### CULTURE AND CELL CULTURE FLASKS

For mixing microcarrier cultures, culture broths, and cell suspensions without destroying the cells

- DURAN glass bottles in different sizes
- Two lateral arms with threaded bores (GL thread) for adding, ventilating and controlling the liquid
- Centrally suspended PTFE agitator blade, removable and easily dismantled for cleaning
- Turns evenly and without jerking, even at very low speeds
- Agitator blade height continuously adjustable from outside
- Microbiologically tight seal
- Can be steam-sterilized up to +121 °C:



#### TECHNICAL DATA

		CULTURE FLASKS			CELL CULTURE FLASKS			
		50 / 100	125 / 250	250 / 500	500 / 1.000	1.500 / 2.500	3.000 / 5.000	6.000 / 10.000
Usable/rated volume	(ml)	50 / 100	125 / 250	250 / 500	500 / 1.000	1.500 / 2.500	3.000 / 5.000	6.000 / 10.000
Threads for side necks		2 x GL 14	2 x GL 18	2 x GL 25	2 x GL 32	2 x GL 45	2 x GL 45	2 x GL 45
Neck, interior diameter	(mm)	30	30	30	80	100	135	135
Height	(mm)	180	180	270	200	255	290	400
Bottle, exterior diameter	(mm)	56	70	85	110	145	185	230
<b>Order No.</b>		<b>77005</b>	<b>77010</b>	<b>77025</b>	<b>77050</b>	<b>77150</b>	<b>79003</b>	<b>79006</b>

## CABLE

### 12 V CAR CONNECTION CABLE

- For operation independent of mains
- For connection to 12 V car socket or cigarette lighter
- Suitable for **MONO DIRECT**, **COMPACT DIRECT** and **BIOSYSTEM DIRECT**

### EXTENSION CABLE 4 pins

For remote-controlled inductive stirring drives

- Suitable for **MINI**, **MICRO**, **COMPACT**, **MAXI**, and **TELESYSTEM**
- 3 m long

### EXTENSION CABLE 6 pins

For remote-controlled **BIOSYSTEM** stirring drives

- Suitable for **BIOSYSTEM** and **BIOSYSTEM 4**
- 3 m long

### EXTENSION CABLE 8 pins

For remote-controlled **MOBIL** stirring drives

- Suitable for **MOBIL 200**, **MOBIL 600** and **MOBIL WITH CENTRE HOLE** (Page 28)
- 3 m long

#### TECHNICAL DATA

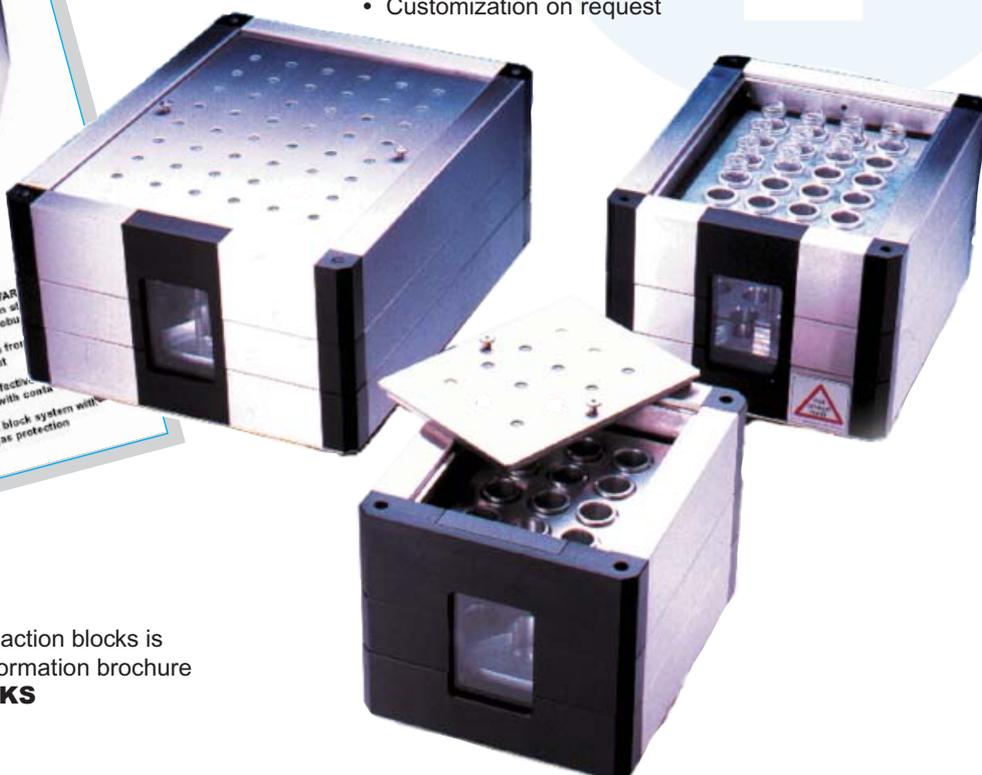
12 V CAR CONNECTION CABLE	KABEL
<b>Order No.</b>	<b>92108</b>
<b>EXTENSION CABLE 4 pins</b>	
<b>Order No.</b>	<b>46158</b>
<b>EXTENSION CABLE 6 pins</b>	
<b>Order No.</b>	<b>76101</b>
<b>EXTENSION CABLE 8 pins</b>	
<b>Order No.</b>	<b>56111</b>



## VARIOMAG REACTION BLOCKS

Stirring, heating and cooling from - 80 to +200 °C

- Ideally suited for combinatorial chemistry and for applications such as substance research and parallel synthesis, but also for biotechnology, analysis, and metallo-organic chemistry
- Integrated VARIOMAG Magnetic Stirrer, hermetically sealed with no moving parts
- Stirring drive is 100% wear-free and maintenance-free
- Aluminium block with 6 to 96 stirring points
- Fully insulated, non-corroding stainless steel frame for faster heating and cooling times, homogenous temperature distribution and for protection against touch
- Temperature range from -80 to +200 °C in one block; up to +300 °C on request
- Broad range of standard sizes: 3 frame sizes, 4 block bore diameters
- Compact, simple to use high-performance, high-efficiency reflux cooler with gap-free heat transmission
- Inert gas protection against ice formation
- Inspection glass for observing samples in completely sealed reaction blocks
- Flat design for easy integration with pipetting stations
- Modular design
- Separate **TELEMODUL 40 CT** control unit with an RS 232 interface (see page 34), i.e. no electronic parts inside the thermally and chemically challenged reaction block
- Customization on request



A more exhaustive description of reaction blocks is contained in our 8-page product information brochure **VARIOMAG REACTION BLOCKS**

**H+P LABORTECHNIK - OEM PRODUCTS**

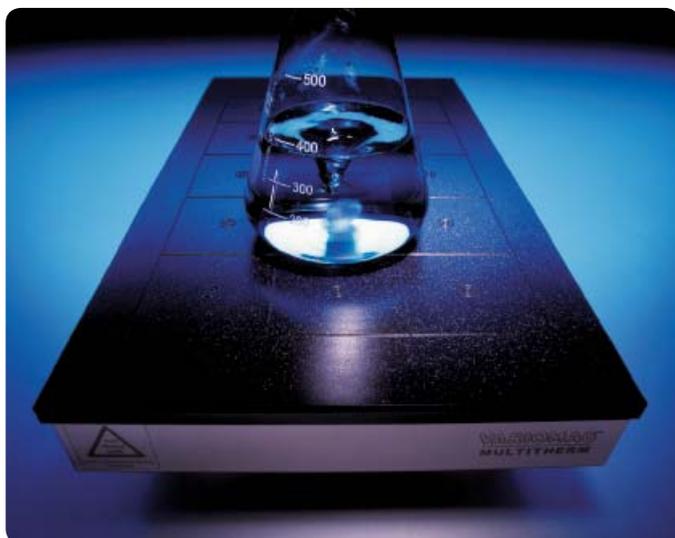
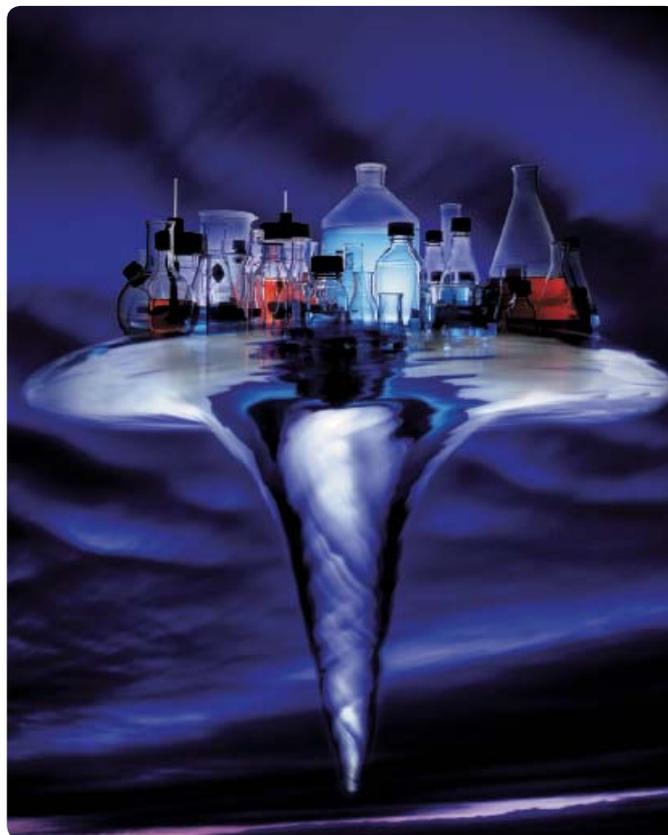
The most important factor in the equation: You. At H+P Labortechnik, you are at the centre of our attention. Let us know what your problems are. We will find the solution for you. Do not hesitate to challenge us!

We are experts in creating special designs and OEM versions of our VARIOMAG Magnetic Stirrers. Do not hesitate to avail yourself of our technical expertise from beginning to end - from the conceptualization and consulting phases to development and production.

Countless enterprises around the world have been successfully employing our technology for many years - adapted to their individual design needs and technical requirements.

Customized VARIOMAG Magnetic Stirrers may include:

- Freely selectable dimensions and stirring point grids
- Single-point and multipoint versions
- Heat-resistant up to +300 °C
- Cold-resistant up to -80 °C
- Pressure-resistant, can be sterilized by steam or dry heat
- With cooling coils or heaters
- Installation versions with or without mounting brackets
- Housings and connectors as per customer specifications
- Drives for rotating elements in hermetically sealed containers, without shaft exists or seals - e.g. for vacuum designs, water wheels and many more
- Control units as PCBs
- Extra strong magnetic stirring bars and discs in customized shapes



**GENERAL NOTES**

All technical descriptions in this document represent the products as offered at the time of going to press. We reserve the right to make changes without notice, in the interest of technical progress.

Please note that the depictions of devices and accessories are of an illustrative nature only. Actual devices may deviate from the descriptions or illustrations in this document.

No responsibility is assumed for printing or transmission errors.

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**ALYS Labware, Lausanne**

**Tel : 021 312 42 60**

**Fax : 021 312 42 61**

**labware@alys-technologies.com** **VARIOMAG®**