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IKA® world-wide

The IKA® group

Success through Creativity

The IKA® group is a manufacturer of laboratory and analytical technology as well as mechanical engineering with world-wide locations. Over decades, we have built a close relationship to our international customers. This is based on our commitment to the highest quality

and innovation of our products and our dedication to the development of solutions for complex applications. With an extraordinary research and development program, the company was able to achieve its leading world market position.



Location: Staufen, Germany



Europe
Middle East
Africa

IKA® - WERKE GMBH & CO.KG
Janke & Kunkel - Str. 10
D-79219 Staufen
Phone: +49 7633 831-0
Fax: +49 7633 831-98
e-mail: sales@ika.de



North America
Central America

IKA® Works, Inc.
2635 North Chase Pkwy SE
Wilmington, NC 28405-7419 USA
Phone: 800 733-3037
Phone: +1 910 452-7059
Fax: +1 910 452-7693
e-mail: usa@ika.net



Asia
Australia

IKA® Works (Asia) Sdn Bhd
No. 17 & 19, Jalan PJU 3/50
Sunway Damansara Technology Park
47810 Petaling Jaya
Selangor, Malaysia
Phone: +60 3 7804-3322
Fax: +60 3 7804-8940
e-mail: sales@ika.com.my



Japan

IKA® Japan K.K.
293-1 Kobayashi-cho
Yamato Koriyama Shi, Nara
639-1026 Japan
Phone: +81 743 58-4611
Fax: +81 743 58-4612
e-mail: info@ika.ne.jp



China

IKA® Works Guangzhou
173 - 175 Friendship Road
Guangzhou Economic and Technological
Development Zone
510730 Guangzhou, China
Phone: +86 20 8222-6771
Fax: +86 20 8222-6776
e-mail: sales@ikagz.com.cn



India

IKA® - WERKE GMBH & CO.KG
Liaison-Office
No. 24, 12th Main
B.T.M. 1st Stage, Guruappanaplaya
560 029 Bangalore
India
Phone: +91 80-51157736
Fax: +91 80 51157735
e-mail: info@ikaindia.com

IKA® Korea Co LTD
1710 Anyang Trade Center
1107 Buhung-dong, Dongan-gu
431-817 Anyang City, Kyeonggi-do
South Korea
Tel.: +82 31-380-6877
Fax: +82 31-380-6878
e-mail: michael@ikakorea.co.kr

IKA® News 2005

All news at-a-glance

lab disc

Page 19



ultra-flat, compact magnetic stirrer with 8 new motifs

RW 14 basic

Page 27

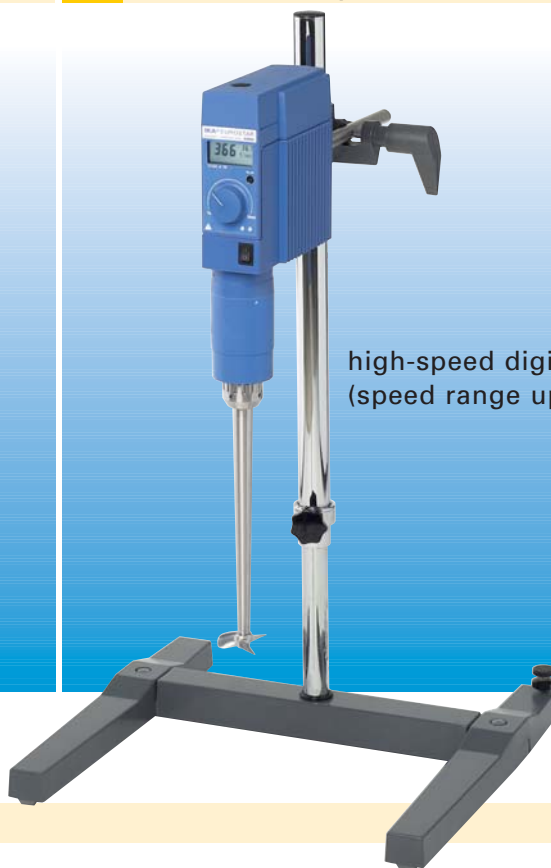
EUROSTAR power control-visc 6000

Page 32

cost-effective,
standard, electronic
overhead stirrer



high-speed digital laboratory stirrer
(speed range up to 6.000 min⁻¹)



lab dancer

Page 40



economic and
innovative vortexer:
small, compact and reliable

IKA® News 2005

All news at-a-glance

VORTEX Genius 3

Page 40



sturdy and stable
vortex shaker with a
wide range of attach-
ments as accessory

T 10 basic

Page 57

modern disperser,
suited for manual
operation



IKA®-PET for 25 µl, 50 µl and 100 µl

Page 92

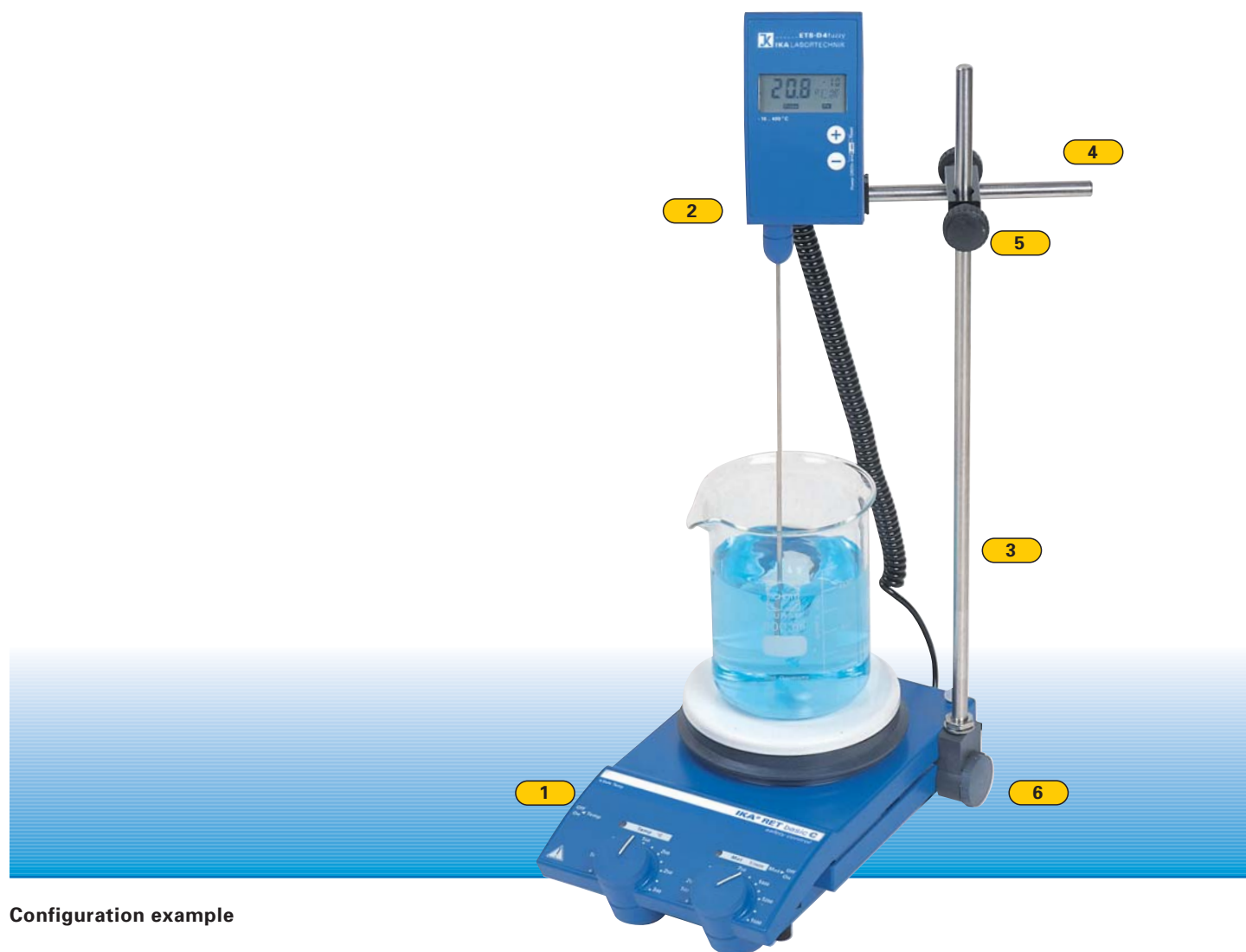


high-precision air
cushion piston stroke
pipette for science,
research and routine
work in the field
of liquid handling



IKA® Mixing

Magnetic stirrers with heating



Configuration example

1

RET basic C safety control

Magnetic stirrer with bushing for connecting a contact thermometer, page 9, incl. protection cover H 99, page 24.

2

ETS-D 4 fuzzy

Electronic contact thermometer with fuzzy logic control, incl. stainless steel sensor H 62, page 21.

3

H 16 V

Support rod for attachment to the magnetic stirrer, page 23.

4

H 36

Holding rod for the ETS-D4 fuzzy or the sensor H 62, page 23.

5

H 44

Boss head clamp, page 23.

6

R 380

Stand support, page 23.

IKA® Mixing

Magnetic stirrers with heating

RET basic safety control



RET basic C safety control

RET basic safety control IKAMAG®, RET basic C safety control IKAMAG®

Magnetic stirrer with new heating and stirring technology for fast, accurate temperature control. The RET basic (with stainless steel surface) and the RET basic C (with white coated surface, chemical resistant) are exemplified by:

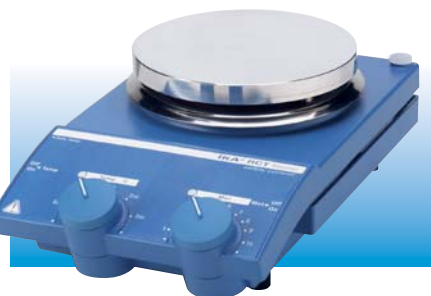
- Extremely fast heating times
- Very broad temperature range (RT - 340 °C)
- Adjustable safety circuit (50 - 380 °C)
- Electronic speed control
- Speed range from 0 - 1.500 rpm
- Bushing according to DIN 12878 for the use of contact thermometers (e.g. ETS-D 4 fuzzy)
- Incl. protection cover H 99

Accessories (Page):

ETS-D 4 fuzzy Electronic contact thermometer (15), IKAFLON® Stirring bars (25), TRIKA® Stirring bars (25), RS 1 Set of stirring bars (25), RSE Stirring bar remover (25), R 380 Stand support (23), Bath attachments (24): H 15, H 28, Oil bath attachments (24): H 29, H 30

Magnetic stirrer		
Stirring quantity (H ₂ O)	20 l	
Motor rating		
input / output	12 / 5 W	
Speed display	Scale	
Speed range	0 - 1.500 rpm	
Max. magnetic bar (L x Ø)	80 x 10 mm	
Heating function		
Heat output	600 W	
Heating rate (1 l H ₂ O)	7 K/min	
Temperature range	RT - 340 °C	
Setting accuracy	± 10 K	
Adjustable safety circuit	50-380 °C	
Sensor for		
temperature in medium	ETS-D 4 fuzzy	
Control accuracy with sensor	± 1 K	
Heating plate		
Material	RET basic:	stainless steel
	RET basic C:	stainless steel white coated
Dimensions	Ø = 135 mm	
General data		
Dimensions (W x D x H)	160 x 280 x 97 mm	
Weight	2,4 kg	
Permissible		
ambient temperature	5 - 40 °C	
Permissible relative humidity	80 %	
Protection class acc. to DIN EN 60529	IP 42	

	Ident. No.		Ident. No.
RET basic safety control	3188800	230 V 50/60 Hz	3188801
			115 V 50/60 Hz
RET basic C safety control	3197600	230 V 50/60 Hz	3197601
			115 V 50/60 Hz



RCT basic safety control IKAMAG®

- With adjustable safety circuit for heating plate temperature (50 - 380 °C)
- Safety magnetic stirrer with heating, suitable for unsupervised operation
- World-wide best seller
- Bushing according to DIN 12878 for connecting a contact thermometer, e.g. ETS-D 4 fuzzy
- Top class safety with improved heating control technology
- Enclosed assembly (IP 42) guarantees long service life
- Highly polished Silumin heating plate for optimum heat transfer
- High magnetic adhesion prevents decoupling
- Incl. protection cover H 99

Accessories (Page):

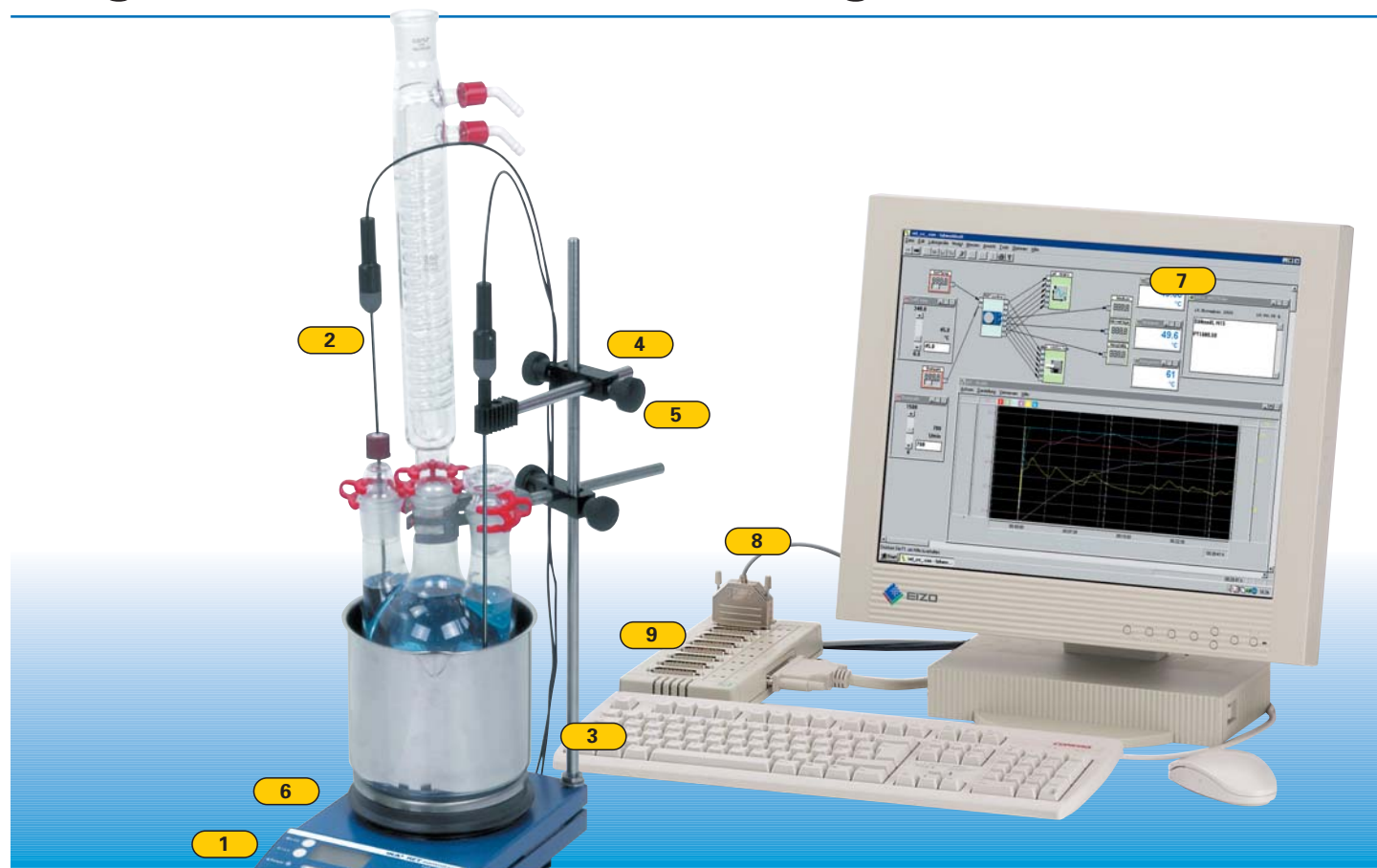
ETS-D 4 fuzzy Electronic contact thermometer (21), IKAFLON® Stirring bars (25), TRIKA® Stirring bars (25), RS 1 Set of stirring bars (25), RSE Stirring bar remover (25), R 380 Stand support (23), Bath attachments (24): H 15, H 28, Oil bath attachments (24): H 29, H 30

Magnetic stirrer	
Stirring quantity (H ₂ O)	20 l
Motor rating	
input / output	12 / 5 W
Speed display	scale (1 - 10)
Speed range	0 - 1.100 rpm
Max. magnetic bar L x Ø	80 x 10 mm
Heating function	
Heat output	600 W
Heating rate (1 l H ₂ O in H 15)	6 K/min
Temperature range	RT - 300 °C
Setting accuracy	± 10 K
Adjustable safety circuit	50 - 380 °C
Sensor for	
temperature in medium	ETS-D 4 fuzzy
Control accuracy with sensor	± 1 K
Heating plate	
Material	silumin
Dimensions	Ø = 135 mm
General data	
Dimensions (W x D x H)	160 x 280 x 90 mm
Weight	2,4 kg
Permissible ambient	
temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42

	Ident. No.		Ident. No.
	3378500	230 V 50/60 Hz	3378501
			115 V 50/60 Hz

IKA® Mixing

Magnetic stirrers with heating



Configuration example

1 RET control-visc safety control
Safety magnetic stirrer with heating, suitable for unsupervised operation, page 11.

2 PT 1000.50
Temperature sensor (double), stainless steel for RET control-visc safety control, page 23.

3 H 16 V
Support rod for attachment to the magnetic stirrer
RET control-visc safety control, page 23.

4 H 36
Holding rod for casing of the temperature sensor PT 1000.50, page 23.

5 H 44
Boss head clamp, page 23.

6 H 99
Protection cover included with RET control-visc safety control, page 24.

7 labworldsoft®
Laboratory software for control and data collection, page 131.

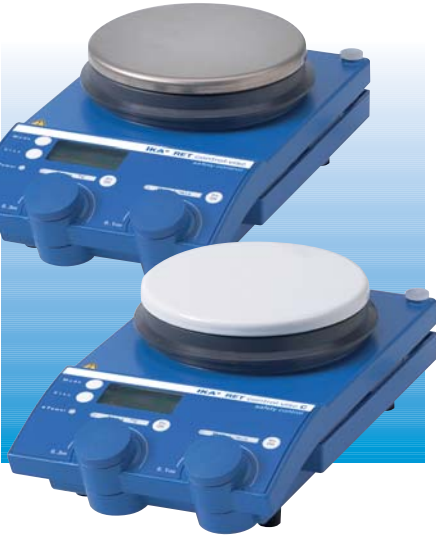
8 PC 1.5
Cable, page 136.

9 PCI 8.2 (accessory optional)
Plug-in card for mounting in the PC to control up to 8 instruments, page 135.

IKA® Mixing

Magnetic stirrers with heating

RET control-visc safety control



RET control-visc C safety control

RET control-visc safety control and RET control-visc C safety control

Safety magnetic stirrer with heating, suitable for unsupervised operation.

- Option: 1 sensor for medium temperature (PT 100) or 2 separate temperature sensors for heat transfer fluid and medium (PT 1000) available (automatic identification)
- 2 adjustable safety circuits
- Stirring bar crack detection
- With stainless steel surface or white coated surface (chemical resistant)
- Setting acc. medium temperature: 0,5 K
- HOT warning display indicating presence of any residual heat when the unit is switched off
- Easy-to-read backlit LCD display
- Actual medium temperature resolution displayed: 0,1 K (RT to 100 °C); 1 K (from 100 °C upwards)
- Fuzzy control and microprocessor technology guarantee maximum control accuracy
- PC control via RS 232 interface, with optional safety function
- Software labworldsoft® is available to control and document all measuring values via PC
- HOT visual warning for hot heating plate
- 3 modes of operation, e.g. stirring and heating functions can be secured against inadvertent changes of set parameters
- Viscosity trend display
- Enclosed assembly (IP 42) guarantees long service life
- Incl. protection cover H 99

Accessories (Page):

Temperature sensors (22/23): PT 100.50, PT 100.51, PT 100.52, PT 1000.50, PT 1000.51, IKAFLON®-Stirring bars (25), TRIKA®-Stirring bars (25), RS 1 Set of stirring bars (25), RSE Stirring bar remover (25), R 380 Stand support (23), Bath attachments (24): H 15, H 28, labworldsoft® (131), Oil bath attachments (24): H 29, H 30, AM 1 Analog module (112)

Magnetic stirrer	
Stirring quantity (H ₂ O)	20 l
Motor rating	
input / output	12 / 5 W
Speed display	digital
Speed range	0 - 1.500 rpm
Max. magnetic bar (L x Ø)	80 x 10 mm
Heating function	
Heat output	600 W
Heating rate (1 l H ₂ O in H 15)	7 K/min
Temperature range	RT - 340 °C
Medium temperature setting resolution	0,5 K (to 100 °C) 1 K (from 100 °C)
Adjustable safety circuit (heating plate)	50 - 350 °C
Adjustable safety circuit (medium)	50 - 350 °C
Sensor for temperature in medium	1 x PT 100 or 2 x PT 1000
Control accuracy with sensor	± 0,2 K
Heating plate	
Material RET control-visc s.c.	stainless steel
RET control-visc C s.c.	stainless steel white coated
Dimensions	Ø = 135 mm
General data	
Dimensions (W x D x H)	160 x 280 x 97 mm
Weight	2,8 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42
Interface	RS 232 / analog

	Ident. No.		Ident. No.
RET control-visc safety control	3364000	230 V 50/60 Hz	3364001 115 V 50/60 Hz
RET control-visc C safety control	3364100	230 V 50/60 Hz	3364101 115 V 50/60 Hz

IKA® Mixing

Magnetic stirrers with heating



RH basic 2

RH basic 2

Economic magnetic stirrer with stainless steel heating plate.

- Fixed safety circuit 400 °C
- Soft-start stirring motor

Accessories (Page):

IKAFLO®-Stirring bars (25), TRIKA®-Stirring bars (25), RSE Stirring bar remover (25), Bath attachments (24): H 15, H 28

Magnetic stirrer	
Stirring quantity (H ₂ O)	10 l
Motor rating	
input / output	15 / 2 W
Speed display	scale (0 - 6)
Speed range	100 - 2.000 rpm
Max. magnetic bar (L x Ø)	40 x 8 mm
Heating function	
Heat output	400 W
Heating rate (1 l H ₂ O in H 15)	3 K/min
Temperature range	RT - 320 °C
Heating plate	
Material	stainless steel (AISI 304)
Dimensions	Ø = 125 mm
General data	
Dimensions (W x D x H)	168 x 220 x 105 mm
Weight	2,4 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21



RH basic KT/C safety control

RH basic KT/C safety control and RH digital KT/C safety control

New, universal magnetic stirrers with heating and bushing according to DIN 12878 for connecting an electronic temperature controller, e.g. ETC 1.

RH digital KT/C safety control complete with digital display for set and actual temperature and actual speed.

- Heating plate with excellent chemical resistance
- Heat output 500 W
- Long life cycle due to foil heating and solid-state switching for heat control
- Adjustable safety circuit for heating plate temperature
- Soft-start stirring motor
- Safety feature: in the event of motor failure the heating switches off automatically

Accessories (Page):

ETC 1 Electronic temperature controller (22), IKAFLO®-Stirring bars (25), TRIKA®-Stirring bars (25), RSE Stirring bar remover (25), Bath attachments (24): H 15, H 28

Magnetic stirrer	
Stirring quantity (H ₂ O)	15 l
Motor rating	
input / output	15 / 2 W
Speed display	scale (0 - 6) / digital
Speed range	100 - 2.000 rpm
Max. magnetic bar (L x Ø)	40 x 8 mm
Heating function	
Heat output	500 W
Heating rate (1 l H ₂ O in H 15)	4,5 K/min
Temperature range	RT - 320 °C
Adjustable safety circuit	100 - 400 °C
Sensor for	
temperature in medium	ETC 1
Control accuracy with sensor	± 3 K
Heating plate	
Heating plate, stainless steel	white coated
Dimensions	130 x 130 mm
General data	
Dimensions (W x D x H)	168 x 220 x 105 mm
Weight	2,4 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21



RH digital KT/C safety control

Ident. No.		Ident. No.	
3339000	230 V 50/60 Hz	3339001	115 V 50/60 Hz
3207100	230 V 50/60 Hz	3207101	115 V 50/60 Hz
3207000	230 V 50/60 Hz	3207001	115 V 50/60 Hz

RH basic KT/C safety control	3207100	230 V 50/60 Hz	3207101	115 V 50/60 Hz
RH digital KT/C safety control	3207000	230 V 50/60 Hz	3207001	115 V 50/60 Hz

Multi-position magnetic stirrers with heating



RT 5 power IKAMAG®

The RT 5 power is a high-performance multi-position magnetic stirrer with 5 stirring positions and integrated temperature control plate. Precise temperature distribution on the heating plate makes it possible to perform series experiments.

- Simultaneously operating stirrers
- Absolute consistency over sample conditions for the individual samples

Accessories (Page):

IKAFロン® Stirring bar (25),
TRIKA® Stirring bar (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring positions	5
Max. stirring quantity per stirrer (H ₂ O)	0,4 l
Distance between stirring places	90 mm
Motor rating input / output	7,2 / 1,8 W
Speed display	scale (1 - 10)
Speed range	0 - 1.100 rpm
Deviation for individual stirring positions	5 %
Max. magnetic bar (L x Ø)	30 x 8 mm
Heating function	
Heat output	175 W
Temperature range (surface)	RT - 120 °C
Max. temperature medium (dep. on vessel)	70 °C
Heat control	scale (1 - 10)
Temperature consistency in the medium	± 2 K
Heating plate	
Material	silicone
Dimensions	120x 450 mm
General data	
Dimensions (W x D x H)	138 x 552 x 65 mm
Weight	3 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42

Ident. No.	Ident. No.
2930300 230 V 50/60 Hz	2930301 115 V 50/60 Hz



RT 10 power IKAMAG®

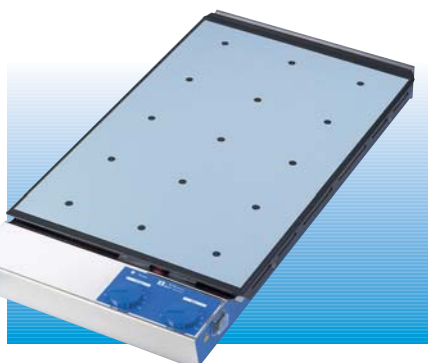
Same features as RT 5 power, but with 10 stirring positions.

Accessories (Page):

IKAFロン® Stirring bars (25),
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring positions	10
Motor rating input / output	14,4 / 3,6 W
Heating function	
Heat output	375 W
Heating plate	
Dimensions	180 x 450 mm
General data	
Dimensions (W x D x H)	198 x 552 x 65 mm
Weight	4,2 kg

Ident. No.	Ident. No.
2930500 230 V 50/60 Hz	2930501 115 V 50/60 Hz



RT 15 power IKAMAG®

Same features as RT 5 power, but with 15 stirring positions.

Accessories (Page):

IKAFロン® Stirring bars (25),
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring positions	15
Motor rating input / output	21,6 / 5,4 W
Heating function	
Heat output	580 W
Heating plate	
Dimensions	270 x 450 mm
General data	
Dimensions (W x D x H)	288 x 552 x 65 mm
Weight	6 kg

Ident. No.	Ident. No.
2930700 230 V 50/60 Hz	2930701 115 V 50/60 Hz

Multi-position magnetic stirrers without heating



RO 5 power IKAMAG®

Multi-position magnetic stirrer with 5 stirring positions, without heating. The stainless steel surface covers the unit allowing easy cleaning and providing protection against the penetration of liquids.

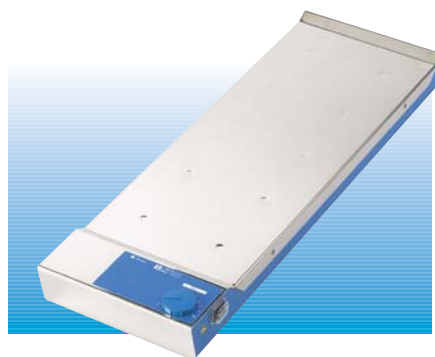
- Optimum use of laboratory space
- Including removable PUR cover

Accessories (Page):

IKAFLO® Stirring bars (25),
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring positions	5
Max. stirring quantity per stirrer (H ₂ O)	0,4 l
Distance between stirring places	90 mm
Motor rating input / output	7,2 / 1,8 W
Speed display	scale (1 - 10)
Speed range	0 - 1.100 rpm
Deviation for individual stirring positions	5 %
Max. magnetic bar (L x Ø)	30 x 8 mm
Set-up plate	
Material	stainl. steel (AISI 304)
Dimensions	120 x 450 mm
General data	
Dimensions (W x D x H)	122 x 552 x 65 mm
Weight	2,3 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42

Ident. No.	Ident. No.
2930200 230 V 50/60 Hz	2930201 115 V 50/60 Hz



RO 10 power IKAMAG®

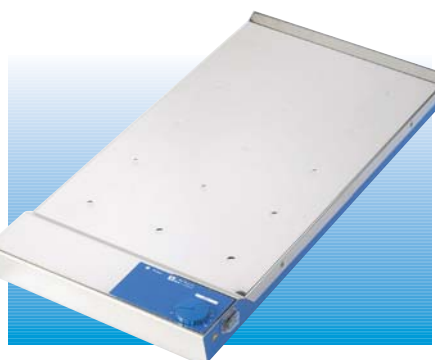
Same features as RO 5 power, but with 10 stirring positions.

Accessories (Page):

IKAFLO® Stirring bars (25)
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring positions	10
Motor rating input / output	14,4 / 3,6 W
Set-up plate	
Dimensions	180 x 450 mm
General data	
Dimensions (W x D x H)	182 x 552 x 65 mm
Weight	3,2 kg

Ident. No.	Ident. No.
2930400 230 V 50/60 Hz	2930401 115 V 50/60 Hz



RO 15 power IKAMAG®

Same features as RO 5 power, but with 15 stirring positions.

Accessories (Page):

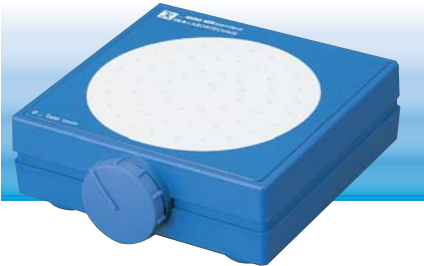
IKAFLO® Stirring bars (25),
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring positions	15
Motor rating input / output	21,6 / 5,4 W
Set-up plate	
Dimensions	270 x 450 mm
General data	
Dimensions (W x D x H)	272 x 552 x 65 mm
Weight	4,7 kg

Ident. No.	Ident. No.
2930600 230 V 50/60 Hz	2930601 115 V 50/60 Hz

IKA® Mixing

Magnetic stirrers without heating



Mini MR standard IKAMAG®
Magnetic stirrer without heating, for stirring quantities up to 800 ml (H₂O).

- Infinitely variable speed from 0 - 1.500 rpm
- White set-up plate suitable for observing color reactions

Accessories (Page):
IKAFLON® Stirring bars (25),
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring quantity (H ₂ O)	0,8 l
Motor rating	
input / output	4 / 0,5 W
Display	none
Speed range	0 - 1.500 rpm
Max. magnetic bar (L x Ø)	30 x 8 mm
Set-up plate	
Material	polyester
Dimensions	115 x 115 mm
General data	
Dimensions (W x D x H)	115 x 130 x 40 mm
Weight	0,23 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42

Ident. No.
2677000 100 - 240 V 50/60 Hz



KMO 2 basic IKAMAG®
Small, powerful magnetic stirrer without heating.

- Strong magnetic field
- Motor with optoelectronic speed control
- Infinitely variable speed from 0 - 1.100 rpm
- Stainless steel casing facilitates cleaning and sterilization
- Includes M 10 thread for H 16 V support rod

Accessories (Page):
IKAFLON® Stirring bars (25),
TRIKA® Stirring bars (25),
RS 1 Set of stirring bars (25),
RSE Stirring bar remover (25),
H 16 V Support rod (23)

Magnetic stirrer	
Stirring quantity (H ₂ O)	5 l
Motor rating	
input / output	14 / 4 W
Display	scale
Speed range	0 - 1.100 rpm
Max. magnetic bar (L x Ø)	50 x 8 mm
Set-up plate	
Material	stainl. steel (AISI 304)
Dimensions	140 x 120 mm
General Data	
Dimensions (W x D x H)	140 x 200 x 75 mm
Weight	1,4 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No. Ident. No.
2812000 230 V 50/60 Hz **2812001** 115 V 50/60 Hz

IKA® Mixing

Magnetic stirrers without heating



COLOR SQUID IKAMAG®

Small magnetic stirrers without heating, in a variety of motifs.

- Recyclable materials
- Very good chemical resistance due to glass top and synthetic bottom made of Hytrel®
- Electronically controlled motor with infinitely variable speed from 0 - 1.500 rpm

Accessories (Page):

IKAFLO®N Stirring bars (25),
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring quantity (H ₂ O)	0,8 l
Motor rating	
input / output	2 / 1 W
Display	none
Speed range	0 - 1.500 rpm
Max. magnetic bar (L x Ø)	30 x 8 mm
Set-up plate	
Material	glass
Dimensions	Ø = 110 mm
General data	
Dimensions (W x D x H)	130 x 135 x 50 mm
Weight	0,48 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 54



	Ident. No.	Motif	Ident. No.	Motif
100 - 240 V 50/60 Hz	2669923	Goldfish	2669917	Number one
	2669925	Lab-Chief	2669922	Wildcat
	2669935	Harry	2669913	Zip
	2669936	Mighty Mouse	2669926	Squidy
	2669910	Harry's notes		

IKA® Mixing

Magnetic stirrers without heating



White



Froggy



Star



IKAmäleon



Ocean

BIG SQUID IKAMAG®

Magnetic stirrer in five motifs. Same features as COLOR SQUID, but with a larger set-up plate:

- Diameter: 160 mm
- Stirring quantity (H₂O) up to 1,5 l

Accessories (Page):

IKAFLO® Stirring bars (25),
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring quantity (H ₂ O)	1,5 l
Motor rating	
input / output	2 / 1 W
Display	none
Speed range	0 - 1.500 rpm
Max. magnetic bar (L x Ø)	30 x 8 mm
Set-up plate	
Material	glass
Dimensions	Ø = 160 mm
General Data	
Dimensions (W x D x H)	180 x 180 x 48 mm
Weight	1 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 54

	Ident. No.	Motif	Ident. No.	Motif
100 - 240 V 50/60 Hz	3050009	White	3050005	IKAmäleon
	3050002	Froggy	3050004	Ocean
	3050001	Star		

IKA® Mixing

Magnetic stirrers without heating



- lab disc**
Ultra-flat compact magnetic stirrer, guaranteed with modern magnet coil technology. Wear-free drive with no moving parts. The lab disc can reverse direction of rotation automatically every 30 seconds to ensure better mixing.
- Explosion hazard zone 2 (see techn. data)
 - Rotation direction is reversible
 - High IP protection class (IP 65)
 - Wear-free
 - Set-up plate and casing made from chemically resistant materials
 - Slip-proof, safe stand

Accessories (Page):
IKAFLON®-Stirring bars (25),
TRIKA®-Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring quantity (H ₂ O)	800 ml
Rating	
input / output	5 / 3 W
Speed range	15 - 1.500 rpm
Reversion of rotation direction (switchable)	every 30 s
Max. magnetic bar (L x Ø)	30 x 8 mm
Surface plate	
Material	polyester
Dimensions	Ø = 90 mm
General data	
Dimensions (W x D x H)	114 x 161 x 12 mm
Weight	0,3 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 65
Ex-proof	Ex II 3 G EEx nC IIB T6

lab disc - the *ultra-flat* magnetic stirrer with **13** great motifs



	Ident. No.	Motif	Ident. No.	Motif
100 - 240 V 50/60 Hz	3277700	[WHITE]	3362000	[AIR-MAIL]
	3362200	[STONE WASHED]	3362100	[MAIL-BOX]
	3362300	[SUNNY SIDE UP]		

IKA® Mixing

Magnetic stirrers without heating



the angels

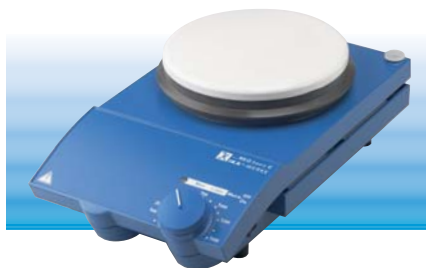


the sportsmen

	Ident. No.	Motif	Ident. No.	Motif
the angels	3415100	[THE CURIOUS]	3415300	[THE DISCOVERER]
	3415700	[THE WORKER]	3415500	[THE OBSERVER]
the sportsmen	3415200	[THE DANCERS]	3415400	[THE GOLFER]
	3415600	[THE PLAYER]	3415000	[THE BIKER]

IKA® Mixing

Magnetic stirrers without heating



REO basic C IKAMAG®

Classic magnetic stirrer without heating new designed. Outstanding chemical resistance due to the white coated heating plate.

- Non-locking, electronically controlled motor
- Constant speed even during changes in load
- Infinitely variable speed

Accessories (Page):

IKAFLO® Stirring bars (25),
TRIKA® Stirring bars (25),
RS 1 Set of stirring bars (25),
RSE Stirring bar remover (25),
H 16 V Support rod (23),
R 380 Stand support (23)

Magnetic stirrer	
Stirring quantity (H ₂ O)	20 l
Motor rating	
input / output	12 / 5 W
Speed display	scale
Speed range	0 - 1.500 rpm
Max. magnetic bar (L x Ø)	80 x 10 mm
Set-up plate	
Material (stainl. steel)	white coated
Dimensions	Ø = 135 mm
General data	
Dimensions (W x D x H)	160 x 280 x 97 mm
Weight	2,4 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80%
Protection class acc. to DIN EN 60529	IP 42

Ident. No.	Ident. No.
3261100 230 V 50/60 Hz	3261101 115 V 50/60 Hz



Midi MR 1 digital IKAMAG®

Powerful magnetic stirrer without heating.

- Flat, sturdy stainless steel casing
- Non-locking motor
- Infinitely variable speed
- Digital LED speed display
- Timer (0 - 56 min) or continuous operation
- For stirring quantities up to 50 liters (H₂O)

Accessories (Page):

IKAFLO® Stirring bars (25),
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring quantity (H ₂ O)	50 l
Motor rating	
input / output	70 / 19 W
Speed display	digital
Speed range	0 - 1.000 rpm
Max. magnetic bar (L x Ø)	80 x 10 mm
Set-up plate	
Material	stainl. steel (AISI 304)
Dimensions	350 x 350 mm
General data	
Dimensions (W x D x H)	360 x 430 x 110 mm
Weight	9 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
2621900 230 V 50/60 Hz	2621901 115 V 50/60 Hz



Maxi MR 1 digital IKAMAG®

Same features as Midi MR 1 digital.

- For stirring quantities up to 150 l (H₂O)

Accessories (Page):

IKAFLO® Stirring bars (25),
TRIKA® Stirring bars (25),
RSE Stirring bar remover (25)

Magnetic stirrer	
Stirring quantity (H ₂ O)	150 l
Motor rating	
input / output	80 / 35 W
Speed display	digital
Speed range	0 - 600 rpm
Max. magnetic bar (L x Ø)	155 x 27 mm
Set-up plate	
Material	stainl. steel (AISI 304)
Dimensions	500 x 500 mm
General data	
Dimensions (W x D x H)	505 x 585 x 110 mm
Weight	16 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
2621800 230 V 50/60 Hz	2621801 115 V 50/60 Hz

IKA® Mixing

Magnetic stirrers accessories



ETS-D 4 fuzzy IKATRON®

Electronic contact thermometer with fuzzy logic control and RESET function, incl. sensor H 62. For IKAMAG® magnetic stirrers and IKATHERM® heating plates with contact thermometer bushing according to DIN 12878. Ensures perfect temperature control without overshooting the set temperature, even in the case of quick heating.

Patented: 3 modes of operation guarantee optimum adjustment to your working method.

Operating mode A:

Suitable for work with varying parameters (from -10 °C to 400 °C). Safety temperature adjustable.

Operating mode B:

Suitable for series operation under uniform conditions.

Operating mode C:

Suitable for unsupervised operation. All values are taken from the memory. This ensures perfect protection against inadvertent or improper adjustment.

Sensor	PT 1000
Measuring / control range	-10 - 400 °C
Temperature display	digital
Resolution	0.1 K (< 100 °C) 1 K (> 100 °C)
Setting accuracy	1 K
Control deviation	± 1 K
Analog output with H 52	100 °C = 1V
Dimensions (W x D x H)	67 x 62 x 145 mm
Weight	0,2 kg
Permissible ambient temperature	0 - 60 °C
Permissible humidity	80 %
Protection class acc. to DIN EN 60529	IP 44

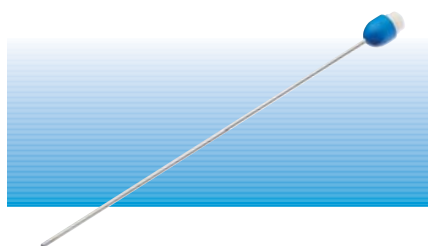
All IKAMAG® magnetic stirrers and IKATHERM® heating plates beginning with manufacturer's No. 466284 or with a "0" before the manufacturer's No. can be connected directly via the contact thermometer bushing acc. to DIN 12878. This applies for all IKA® devices manufactured since 1990.

Accessories (Page):

Sensors (21): H 62, H 66, H 70 Extension cable (21), H 52 Power pack set (22), H 16 V Support rod (23), H 44 Boss head clamp (23), H 36 Holding rod (23)

Ident. No.

2666600



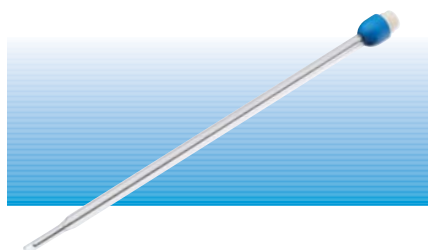
H 62 Stainless steel sensor

Spare sensor for use with ETS-D 4 fuzzy.

Depth of immersion	230 mm
Diameter	3 mm
Length	260 mm

Ident. No.

2735400



H 66 Stainless steel sensor, glass-coated

For use with ETS-D 4 fuzzy, for work with aggressive media such as acid and alkaline solutions.

Depth of immersion	230 mm
Diameter	6 mm
Length	260 mm

Ident. No.

2735500



H 70 Extension cable

To separate the casing from the sensor. The casing with the electronics may thus be kept away from dangerous vapor released by the medium (for use with ETS-D 4 fuzzy).

Length	1 m
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Ident. No.

2735600

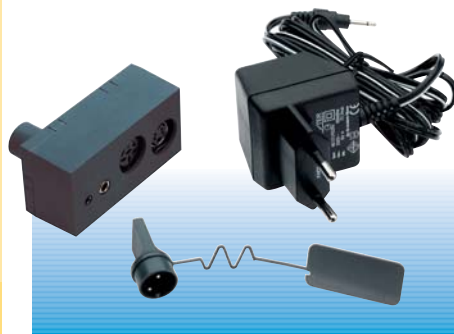
IKA® Mixing

Magnetic stirrers accessories

H 52 Power pack set

The power pack set is required in order to operate older magnetic stirrer models (prior to 1990) with ETS-D 4 fuzzy. If you have any questions, please contact our service department.

In addition, the power pack set features an analog output to document signals on a recorder.



Analog output	10 mV/K
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Accessories (Page):

labworldsoft® (131), DC 2 DATACONTROL (135), AK 2.1 Analog cable (136)

PC documentation is also possible in combination with DC 2 DATACONTROL and labworldsoft®.

Ident. No.	Ident. No.
8010600	8010601
230 V 50/60 Hz	115 V 50/60 Hz

ETC 1 IKATRON®

Special temperature controller for use with magnetic stirrers RH basic KT/C *safety control* and RH digital KT/C *safety control*, incl. H 62.51 Stainless steel sensor.

Accessories (Page):

H 62 ETC 1 Stainless steel sensor (22), H 16 V Support rod (23), H 44 Boss head clamp (23), H 36 Holding rod (23)

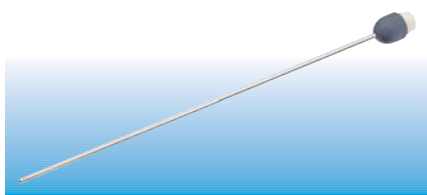


Sensor	PT 1000
Measuring / control range	0 - 350 °C
Temperature display	digital
Resolution	0.1 K (< 100 °C) 1 K (> 100 °C)
Setting accuracy	1 K
Control deviation	± 3 K
Dimensions (W x D x H)	67 x 62 x 145 mm
Weight	0,2 kg
Permissible ambient temperature	0 - 60 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 44

Ident. No.
3279000

H 62.51 Stainless steel sensor

Spare sensor for use with ETC 1.



Depth of immersion	230 mm
Diameter	3 mm
Length	260 mm

Ident. No.
2735451

PT 100.50 Temperature sensor

For use with RET control-visc *safety control* and RET control-visc C *safety control*, made of stainless steel.



Depth of immersion	230 mm
Diameter	3 mm
Accessories (Page):	
	H 16 V Support rod (23), H 44 Boss head clamp (23), H 36 Holding rod (23)

Ident. No.
2601900

PT 100.51 Temperature sensor

For use with RET control-visc *safety control* and RET control-visc C *safety control*, glass-coated for work with aggressive media such as acid and alkaline solutions.



Depth of immersion	230 mm
Diameter	8 mm
Accessories (Page):	
	H 16 V Support rod (23), H 44 Boss head clamp (23), H 36 Holding rod (23)

Ident. No.
2600300

IKA® Mixing

Magnetic stirrers accessories



PT 100.52 Temperature sensor

Made of stainless steel, for use with RET control-visc *safety control* and RET control-visc C *safety control*.

Accessories (Page):

H 16 V Support rod (23), H 44 Boss head clamp (23), H 36 Holding rod (23)

Depth of immersion	60 mm
Diameter	3 mm

Ident. No.
2847700



PPT 1000.50 Temperature sensor

2 separate steel sensors for heat transfer fluid and medium. Ideal for the magnetic stirrers RET control-visc *safety control* and RET control-visc C *safety control*.

Accessories (Page):

H 16 V Support rod (23), H 44 Boss head clamp (23), H 36 Holding rod (23)

Depth of immersion	230 mm
Diameter	3 mm

Ident. No.
3367600

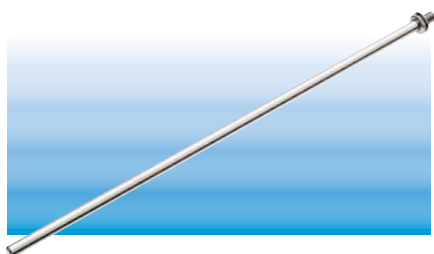


PT 1000.51 Temperature sensor

As per PT 1000.50, but glass-coated for work with corrosive media such as acids and lyes.

Depth of immersion	230 mm
Diameter	3 mm

Ident. No.
3377700



H 16 V Support rod

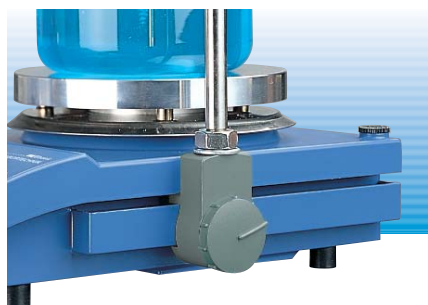
Stainless steel support rod for all magnetic stirrers with M 10 threaded bushing.

Accessories (Page):

H 44 Boss head clamp (23), H 36 Holding rod (23), R 380 Stand support (23)

Diameter	10 mm
Length	450 mm
Thread	M 10
Material	stainl. steel (AISI 304)

Ident. No.
1545100



R 380 Stand support

For fitting along the multifunction strips of the magnetic stirrers RCT basic *safety control*, RET basic *safety control*, RET basic C *safety control*, RET control-visc *safety control*, RET control-visc C *safety control* and REO basic C. It allows the support rod H 16 V to be fixed at any given position. This makes it possible to use several support rods.

Accessories (Page):

H 16 V Support rod (23)

Ident. No.
2636700



H 44 Boss head clamp

For fastening the holding rod H 36 to the support rod H 16 V.

Ident. No.
2437700



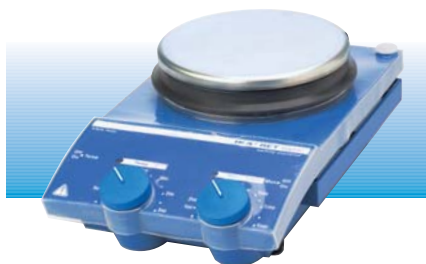
H 36 Holding rod

For fastening ETS-D 4 fuzzy or ETC 1 with H 44 to the support rod H 16 V.

Ident. No.
2288000

IKA® Mixing

Magnetic stirrers accessories



H 99 Protective cover

For the magnetic stirrers RCT basic *safety control*, RET basic *safety control*, RET basic C *safety control*, RET control-visc *safety control*, RET control-visc C *safety control* (included in delivery).

- Resistant to most acids, alkaline solutions and organic solvents

Material	silicone
Max. temperature	135 °C

Ident. No.

2734500



H 15 Bath attachment

Stainless steel bath attachment, suitable for tempering 0,5 and 1 l flasks.

Inner diameter	140 mm
Height	125 mm
Volume	1,5 l

Ident. No.

0551300



H 28 Bath attachment

Stainless steel bath attachment, suitable as a sand bath basin.

Inner diameter	140 mm
Height	70 mm
Volume	1 l
Max. temperature	350 °C

Ident. No.

2167400

Oil bath attachments

H 29

H 30

The oil bath attachments H 29 and H 30 can be used as oil baths together with an IKAMAG® magnetic stirrer with heating or with an IKATHERM® heating plate having a diameter of 135 mm.

- Positioning border prevents sliding on the heating plate
- Safety grips protect you from burns caused by hot oil
- The bath attachment is made of aluminum. This ensures good heat transfer and quick heating-up of the tempering medium
- Easy cleaning
- The bath attachments can **only be used as an oil bath**

Inner diameter	136 - 180 mm
Height	81 mm
Volume	1 l
Inner diameter	136 - 190 mm
Height	110 mm
Volume	1,5 l

Ident. No.

2829400 H 29

2829500 H 30



H 12 / 135 Supporting plate

For increasing the heating plate to a diameter of 200 mm.

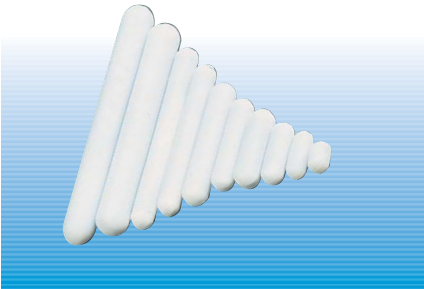
For heating plate diameter	135 mm
Material	aluminum
Diameter enlarged to	200 mm

Ident. No.

0771700

IKA® Mixing

Magnetic stirrers accessories



IKAFLON® Magnetic stirring bars
Round, PTFE-coated.

Ident. No.	Description	Length	Ø
1572000	IKAFLON® 10*	10 mm	6 mm
1572100	IKAFLON® 15*	15 mm	6 mm
1572200	IKAFLON® 20*	20 mm	8 mm
1572300	IKAFLON® 25*	25 mm	8 mm
1572400	IKAFLON® 30*	30 mm	8 mm
1572500	IKAFLON® 40*	40 mm	8 mm
1572600	IKAFLON® 50*	50 mm	8 mm
1572800	IKAFLON® 80*	80 mm	10 mm
0793300	IKAFLON® 110	110 mm	27 mm
1129000	IKAFLON® 155	155 mm	27 mm



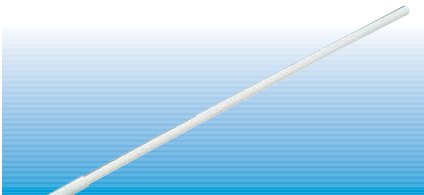
TRIKA® Magnetic stirring bars
Triangular, PTFE-coated, especially suited for stirring liquids which have a low solids content and where sedimentation is not desired.

Ident. No.	Description	
0356600	TRIKA® 25*	25 mm
0356500	TRIKA® 42*	42 mm



RS 1 Set of magnetic stirring bars
Consisting of the IKAFLON® and TRIKA® Magnetic stirring bars marked with *, see above.

Ident. No.
1358600



RSE Stirring bar remover
For all stirring bars up to 80 mm in length, PTFE-coated.

Ident. No.
1293100



H 11 Mains cable
Spare

Ident. No.	Ident. No.
1091500 (EURO plug)	1091700 (USA plug)
2410700 (UK plug)	1091600 (CH plug)

IKA® Mixing

Electronic overhead stirrers

Overhead stirrers

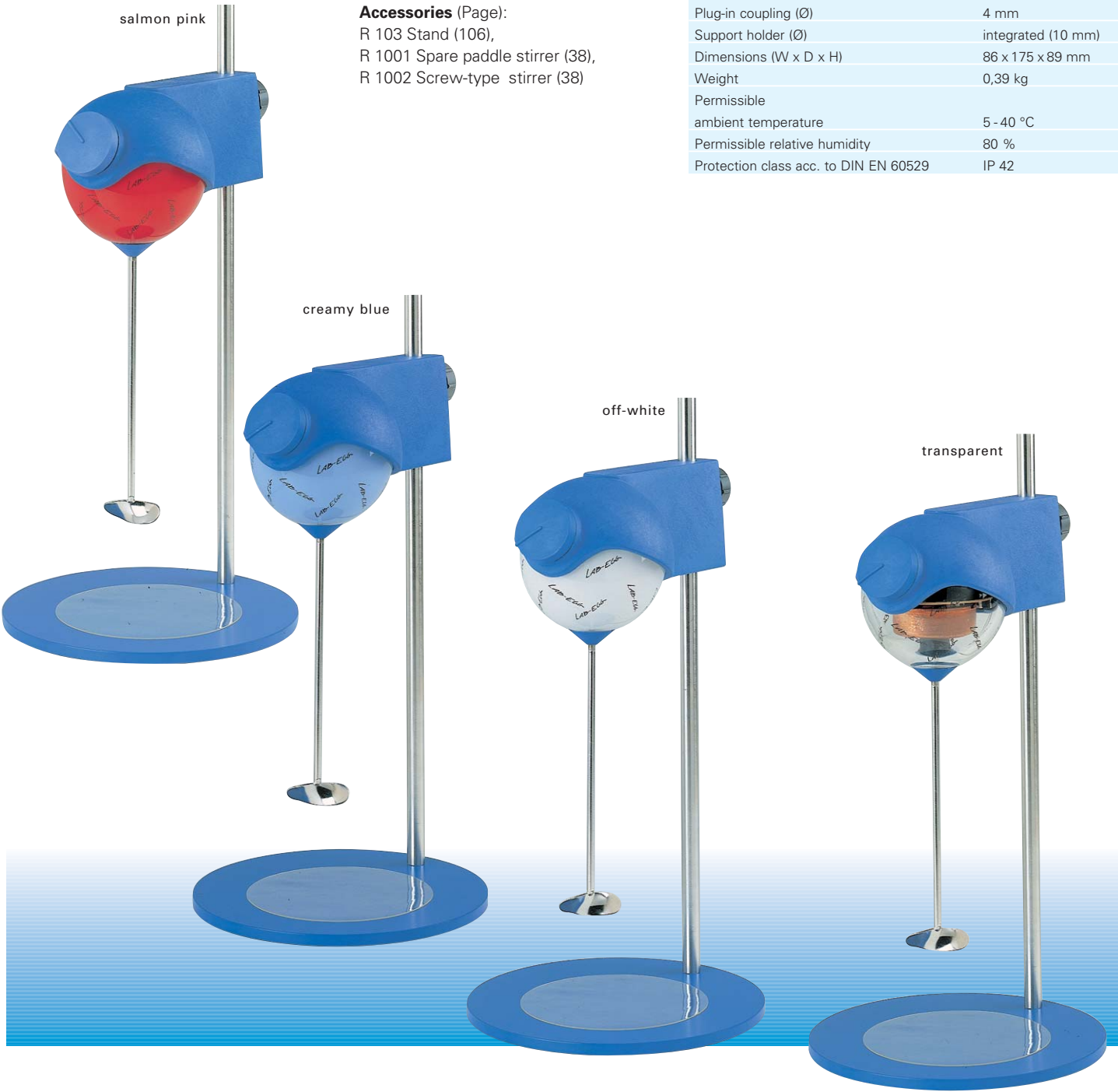
Mixing

RW 11 basic “Lab Egg”
 Small-sized stirrer available in four attractive colors.

- Glass housing resistant to chemicals
- Max. stirring quantity 2 l (H₂O)
- Incl. paddle stirrer R 1001 and extension arm

Accessories (Page):
 R 103 Stand (106),
 R 1001 Spare paddle stirrer (38),
 R 1002 Screw-type stirrer (38)

Stirring quantity (H ₂ O)	2 l
Max. viscosity	100 mPas
Motor rating	
input / output	8 / 1 W
Output at stirring shaft	1 W
Max. ON-time	100 %
Max. torque (plug-in coupling)	0,8 Ncm
Speed range	0 - 2.000 rpm
Speed display	none
Plug-in coupling (Ø)	4 mm
Support holder (Ø)	integrated (10 mm)
Dimensions (W x D x H)	86 x 175 x 89 mm
Weight	0,39 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42



	Ident. No.		Ident. No.
100 - 240 V 50/60 Hz	2830005	salmon pink	2830001
	2830004	creamy blue	2830000
		off-white	transparent

IKA® Mixing

Electronic overhead stirrers

RW 14 basic

Quiet, economical laboratory stirrer with electronic infinitely adjustable speed. For stirring substances of low to medium viscosity. The laboratory stirrer is suitable for reproducibly setting the speed or processing media with substantial temporary viscosity changes.

- Constant speed thanks to electronic control
- Infinitely adjustable speed
- Very smooth thanks to direct drive
- Suitable for stirring quantities up to 8 l (H₂O)
- Easy to operate
- Slimline
- Anti-stall and anti-overload system

Accessories (Page):

Stands (106): R 1825, R 1826, R 1827, R 182 Boss head clamp (108), RH 3 Strap clamp (108), R 301 Stirring shaft protection (38), R 301.1 Support holder (38), Stirring elements (36/37): e.g. R 1342, FK 1 Flexible coupling (38)

Stirring quantity (H ₂ O)	8 l
Max. viscosity	10.000 mPas
Motor rating input / output	28,5 W / 17 W
Max. output power at stirring shaft	17 W
Permitted on-time	100 %
Max. torque at chuck	8 Ncm
Speed range	100 - 2.000 rpm
Speed display	scale
Chuck range	0,5 - 8 mm
Diameter / length of extension arm	13 / 160 mm
General data	
Dimensions without extension arm (W x D x H)	70 x 176 x 197 mm
Weight	2 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 20

Ident. No.

3331400	230 V 50/60 Hz	Available 2. quarter 2005
3331401	115 V 50/60 Hz	Available 2. quarter 2005

IKA® Mixing

Electronic overhead stirrers



Configuration examples

1

RW 16 basic

Stirrer for quantities up to 10 l,
page 29.

2

R 1373

Paddle stirrer,
page 36.

5

R 1825

Plate stand,
page 106.

6

R 182

Boss head clamp,
page 108.

7

RH 3

Strap clamp,
page 108.

3

EUROSTAR digital

Stirrer for quantities up to 20 l,
page 29.

4

R 1330

Anchor stirrer,
page 36.

5

R 1825

Plate stand,
page 106.

6

R 182

Boss head clamp,
page 108.

7

RH 3

Strap clamp, page 108.

IKA® Mixing

Electronic overhead stirrers



RW 16 basic

Laboratory stirrer for simple stirring tasks of up to 10 liters (H₂O) with ideal speed range from 40 - 1.200 rpm. Especially suitable for schools, universities and inspection laboratories.

- Infinitely adjustable without gear shifting
- Slim casing
- Quiet operation
- Safety circuit
- Non-locking, overload capabilities

Accessories (Page):

Stands (106): R 1825, R 1826, R 1827, R 182 Boss head clamp (108), FK 1 Flexible coupling (38), RH 3 Strap clamp (108), DZM control.o Revolution counter (111), R 301 Stirring shaft protection (38), Stirring elements (36/37): e.g. R 1342, R 1330, R 1373

Stirring quantity (H ₂ O)	10 l
Max. viscosity	10.000 mPas
Motor rating	
input / output	75 / 55 W
Output at stirring shaft	53 W
Max. ON-time	100 %
Max. torque	
at chuck	40 Ncm
Speed range	40 - 1.200 rpm
Speed display	scale (1 - 10)
Chuck range	0,5 - 10 mm
Hollow shaft, inner diameter	11 mm
Diameter / length of extension arm	13 mm / 160 mm
Dimensions (W x D x H)	80 x 190 x 222 mm
Weight	2,8 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42

Ident. No.	Ident. No.
2572100 230 V 50/60 Hz	2572101 115 V 50/60 Hz



EUROSTAR digital

Laboratory stirrer that can be used up to the "medium viscosity" range.

- Constant speed by microprocessor control
- Digital display presents set and actual speed
- Infinitely adjustable without gear shifting
- Slim casing
- Quiet operation
- Safety circuit
- Non-locking, overload capabilities
- Push-through agitator shafts
- Enhanced safety as a result of smooth start

Accessories (Page):

Stands (106): R 1825, R 1826, R 1827, R 182 Boss head clamp (108), FK 1 Flexible coupling (38), RH 3 Strap clamp (108), R 301 Stirring shaft protection (38), Stirring elements (36/37): e.g. R 1342, R 1330, R 1373

Stirring quantity (H ₂ O)	20 l
Max. viscosity	10.000 mPas
Motor rating	
input / output	75 / 55 W
Output at stirring shaft	53 W
Max. ON-time	100 %
Max. torque	
at chuck	30 Ncm
Speed range	50 - 2.000 rpm
Speed display	digital
Chuck range	0,5 - 10 mm
Hollow shaft, inner diameter	11 mm
Diameter / length of extension arm	13 mm / 160 mm
Dimensions (W x D x H)	80 x 190 x 222 mm
Weight	2,8 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42

Ident. No.	Ident. No.
2482000 230 V 50/60 Hz	2482001 115 V 50/60 Hz

IKA® Mixing

Electronic overhead stirrers



EUROSTAR power basic

Powerful laboratory stirrer for tasks up to the "high viscosity" range.

- Constant speed by microprocessor control
- Infinitely adjustable without gear shifting
- Slim casing
- Quiet operation
- Safety circuit
- Non-locking, overload capabilities
- Push-through agitator shafts
- Enhanced safety as a result of smooth start
- Analog recording of speed parameters is possible

Accessories (Page):

Stands (106): R 2722, R 2723, R 271 Boss head clamp (108), FK 1 Flexible coupling (38), RH 5 Strap clamp (108), VK 600 control Torque measurement instrument (129), DZM control.o Revolution counter (111), R 301 Stirring shaft protection (38), Stirring elements (36/37): e.g. R 1345, R 1375

Stirring quantity (H ₂ O)	40 l
Max. viscosity	50.000 mPas
Motor rating	
input / output	130 / 110 W
Output at stirring shaft	105 W
Max. ON-time	100 %
Max. torque	
at chuck	60 Ncm
Speed range	50 - 2.000 rpm
Speed display	scale
Chuck range	0,5 - 10 mm
Hollow shaft, inner diameter	11 mm
Diameter / length of extension arm	16 mm / 200 mm
Dimensions (W x D x H)	80 x 190 x 253 mm
Weight	3,8 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42
Interface	analog

Ident. No.	Ident. No.
2572200	2572201
230 V 50/60 Hz	115 V 50/60 Hz



EUROSTAR power control-visc

Powerful, digital laboratory stirrer for tasks up to the "high viscosity" range.

Same features as EUROSTAR power basic, additionally: labworldsoft® software is available to allow speed and torque parameters to be controlled, regulated and documented via a PC.

- Digital display presents rated - / actual speed
- Integrated torque trend display for viscosity control
- Analog interface for recording speed and torque
- RS 232 interface

Accessories (Page):

Stands (106): R 2722, R 2723, R 271 Boss head clamp (108), FK 1 Flexible coupling (38), RH 5 Strap clamp (108), VK 600 control Torque measurement instrument (129), R 301 Stirring shaft protection (38), Stirring elements (36/37): e.g. R 1345, R 1375, labworldsoft® (131), RC 1 Remote control (39), AM 1 Analog module (112)

Stirring quantity (H ₂ O)	40 l
Max. viscosity	50.000 mPas
Motor rating	
input / output	130 / 110 W
Output at stirring shaft	105 W
Max. ON-time	100 %
Max. torque	
at chuck	60 Ncm
Speed range	50 - 2.000 rpm
Speed display	digital
Chuck range	0,5 - 10 mm
Hollow shaft, inner diameter	11 mm
Diameter / length of extension arm	16 mm / 200 mm
Dimensions (W x D x H)	80 x 190 x 253 mm
Weight	3,8 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42
Interface	RS 232 / analog
Torque measurement	trend

Ident. No.	Ident. No.
2600000	2600001
230 V 50/60 Hz	115 V 50/60 Hz

IKA® Mixing

Electronic overhead stirrers



Configuration example

1 **EUROSTAR power control-visc**
Stirrer for quantities up to 40 l, with
RS 232 interface,
page 30.

2 **R 1331**
Anchor stirrer,
page 36.

3 **R 2723**
Telescopic stand,
page 106.

4 **R 271**
Boss head clamp,
page 108.

5 **RH 5**
Strap clamp,
page 108.

6 **labworldsoft®**
Laboratory software for control and
data collection,
page 131.

7 **PC 1.5**
Cable,
page 136.

8 **PCI 8.2**
Plug-in card for mounting in the PC to
control up to 8 instruments,
page 135.

IKA® Mixing

Electronic overhead stirrers



EUROSTAR power control-visc 6000

High-performance digital laboratory stirrer for tasks up to the "medium viscosity" range.

Same features as EUROSTAR power control-visc (page 30), additionally:

- Speed range up to 6.000 rpm
- Agitator elements are not push-through
- Cone seat for precision shaft, incl. with delivery (stirring elements can be screw connected, please order separately)
- Analog output of speed and torque

Accessories (Page):

Stands (106): R 2722, R 2723, R 271 Boss head clamp (108), RH 5 Strap clamp (108), R 301 Stirring shaft protection (38), R 1402 Dissolver (68), R 1405 Propeller (68), R 1401 Propeller, labworldsoft® (131), RC 1 Remote control (39), AM 1 Analog module (112)

Available 3. quarter 2005

Stirring quantity (H ₂ O)	20 l
Max. viscosity	10.000 mPas
Motor rating	
input / output	130 / 110 W
Output at stirring shaft	105 W
Max. ON-time	100 %
Max. torque	
at chuck	15 Ncm
Speed range	150 - 6.000 rpm
Speed display	digital
Diameter / length of extension arm	16 mm / 220 mm
Dimensions (W x D x H)	80 x 190 x 317 mm
Weight	4,8 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42
Interface	RS 232 / analog
Torque measurement	trend

Ident. No.	Ident. No.
3460000	3460001
230 V 50/60 Hz	115 V 50/60 Hz



EUROSTAR power control-visc P1

Powerful, digital laboratory stirrer for tasks up to the "high viscosity" range.

- Constant speed by microprocessor control
- Infinitely adjustable without gear shifting
- Slim casing
- Quiet operation
- Safety circuit
- Non-locking, overload capabilities
- Push-through agitator shafts
- Enhanced safety as a result of smooth start
- Digital display presents rated- and actual-speed
- Integrated torque trend display for viscosity control
- Analog interface for recording speed and torque
- RS 232 interface
- Software labworldsoft® is available to control and document all measuring values via PC

Accessories (Page):

Stands (106): R 2722, R 2723, R 271 Boss head clamp (108), RH 5 Strap clamp (108), VK 600 control Torque measurement instrument (129), R 301 Stirring shaft protection (38), Stirring elements (36/37): e. g. R 1331, R 1312, labworldsoft® (131), RC 1 Remote control (39), AM 1 Analog module (112)

Overhead stirrer	
Stirring quantity (H ₂ O)	60 l
Max. viscosity	70.000 mPas
Motor rating	
input / output	153 / 134 W
Output at stirring shaft	126 W
Max. ON-time	100 %
Max. torque	
at chuck	100 Ncm
Speed range	50 - 1.200 rpm
Speed display	digital
Chuck range	0,5 - 10 mm
Hollow shaft, inner diameter	11 mm
Diameter / length of extension arm	16 mm / 200 mm
General data	
Dimensions (W x D x H)	80 x 190 x 253 mm
Weight	4 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42
Interface	RS 232 / analog
Torque measurement	trend

Ident. No.	
3330000	
230 V 50/60 Hz	

IKA® Mixing

Electronic overhead stirrers



EUROSTAR power control-visc P4 EUROSTAR power control-visc P7

Laboratory stirrer with a high torque. Same features as EUROSTAR power control-visc P1, but with 4-fold resp. 7-fold transmission reduction and without push-through agitator shafts.

Accessories (Page):

Stands (106): R 2722, R 1826, R 2723, R 271 Boss head clamp (108), RH 5 Strap clamp (108), VK 600 control Torque measurement instrument (129), R 301 Stirring shaft protection (38), Stirring elements (36/37): e.g. R 1331, R 1312, labworldsoft® (131), RC 1 Remote control (39), AM 1 Analog module (112)

EUROSTAR power control-visc P4	
Transmission reduction	4-fold
Stirring quantity (H ₂ O)	40 l
Max. viscosity	100.000 mPas
Max. torque	
at chuck	200 Ncm
Speed range	14 - 530 rpm
Dimensions (W x D x H)	80 x 190 x 330 mm
Weight	4,9 kg
EUROSTAR power control-visc P7	
Transmission reduction	7-fold
Stirring quantity (H ₂ O)	40 l
Max. viscosity	150.000 mPas
Max. torque	
at chuck	380 Ncm
Speed range	8 - 290 rpm
Dimensions (W x D x H)	80 x 190 x 330 mm
Weight	4,9 kg

	Ident. No.		Ident. No.
P4	2850000	230 V 50/60 Hz	2850001
P7	2850700	230 V 50/60 Hz	2850701

Mechanical overhead stirrers



RW 20.n

Sturdy, slim stirrer - for years worldwide laboratory bestseller.

- For stirring tasks up to 20 l (H₂O)
- With constant power-drive, mechanically controlled
- Two speed ranges for universal use from 60 - 2.000 rpm
- Push-through agitator shafts
- Revolution counter DZM control.o may be connected

Accessories (Page):

Stands (106): R 1825, R 1826, R 1827, R 182 Boss head clamp (108), FK 1 Flexible coupling (38), RH 3 Strap clamp (108), VK 600 control Torque measurement instrument (129), DZM control.o Revolution counter (111), R 301 Stirring shaft protection (38), Stirring elements (36/37): e.g. R 1373, R 1332, VK 60/01 Adapter (129)

Stirring quantity (H ₂ O)	20 l
Max. viscosity	10.000 mPas
Motor rating	
input / output	70 / 35 W
Output at stirring stirring shaft	26 W
Max. ON-time	100 %
Max. torque at chuck	
per 60 rpm	300 Ncm
per 100 rpm	150 Ncm
per 1,000 rpm	24 Ncm
Speed range I (50 Hz)	60 - 500 rpm
Speed range II (50 Hz)	240 - 2.000 rpm
Speed range I (60 Hz)	72 - 600 rpm
Speed range II (60 Hz)	288 - 2.400 rpm
Speed display	scale
Chuck range	0,5 - 10 mm
Hollow shaft, inner diameter	10,5 mm
Diameter / length of extension arm	13 mm / 160 mm
Dimensions (W x D x H)	88 x 188 x 292 mm
Weight	2,9 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 20

Ident. No.		Ident. No.	
2684600	230 V 50/60 Hz	2684601	115 V 50/60 Hz

IKA® Mixing

Mechanical overhead stirrers

RW 20 DZM.n

Sturdy, slim stirrer with an integrated digital speed display.

- For stirring tasks up to 20 l (H₂O)
- With constant power-drive, mechanically controlled
- Two speed ranges for universal use from 60 - 2.000 rpm
- Push-through agitator shafts

Accessories (Page):

Stands (106): R 1825, R 1826, R 1827,
R 182 Boss head clamp (108),
FK 1 Flexible coupling (38),
RH 3 Strap clamp (108), VK 600 control
Torque measurement instrument (129),
R 301 Stirring shaft protection (38), Stirring
elements (36/37): e.g. R 1373, R 1332,
VK 60/01 Adapter (129)



Stirring quantity (H ₂ O)	20 l
Max. viscosity	10.000 mPas
Motor rating	
input / output	70 / 35 W
Output at stirring shaft	26 W
Max. ON-time	100 %
Max. torque at chuck	
per 60 rpm	300 Ncm
per 100 rpm	150 Ncm
per 1.000 rpm	24 Ncm
Speed range I (50 Hz)	60 - 500 rpm
Speed range II (50 Hz)	240 - 2.000 rpm
Speed range I (60 Hz)	72 - 600 rpm
Speed range II (60 Hz)	288 - 2.400 rpm
Speed display	digital
Chuck range	0,5 - 10 mm
Hollow shaft, inner diameter	10,5 mm
Diameter / length of extension arm	13 mm / 160 mm
Dimensions (W x D x H)	88 x 210 x 292 mm
Weight	3,1 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 20

Ident. No.	Ident. No.
2684700 230 V 50/60 Hz	2684701 115 V 50/60 Hz

RW 28 basic

Powerful, mechanically controlled stirrer. Suitable for quantities up to 80 l (H₂O) for use in laboratories and pilot plant stations.

- Two selectable speed ranges for high viscosity (range I) or intensive mixing (range II)
- Push-through agitator elements
- Ex-proof version available on request

Accessories (Page):

Stands (106): R 2722, R 2723,
R 271 Boss head clamp (108), FK 1
Flexible coupling (38), RH 5 Strap clamp
(108), R 301 Stirring shaft protection (38),
Stirring elements (36/37): e.g. R 1345,
R 1300, R 301.1 Support holder (38)



Stirring quantity (H ₂ O)	80 l
Max. viscosity	50.000 mPas
Motor rating	
input / output	220 / 90 W
Output at stirring shaft	90 W
Max. ON-time	100 %
Max. torque at chuck	
per 60 rpm	1.144 Ncm
per 100 rpm	900 Ncm
per 1.000 rpm	86 Ncm
Speed range I (50 Hz)	60 - 400 rpm
Speed range II (50 Hz)	240 - 1.400 rpm
Speed range I (60 Hz)	72 - 480 rpm
Speed range II (60 Hz)	288 - 1.680 rpm
Speed display	scale
Chuck range	1 - 10 mm
Hollow shaft diameter	10,5 mm
Diameter / length of extension arm	16 mm / 145 mm
Dimensions (W x D x H)	123 x 252 x 364 mm
Weight	7,4 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42

Ident. No.	Ident. No.
2760000 230 V 50/60 Hz	2760001 115 V 50/60 Hz

IKA® Mixing

Mechanical overhead stirrers



RW 28 D

Powerful, mechanically controlled stirrer with AC motor and high IP protection class. Suitable for quantities up to 80 l (H₂O) for use in laboratories and pilot plant stations.

- Two selectable speed ranges for high viscosity (range I) or intensive mixing (range II)
- Agitator elements are not push-through
- Cables with plugs not included in delivery

Accessories (Page):

Stands (106): R 2722, R 2723, R 271 Boss head clamp (108), RH 5 Strap clamp (108), R 301 Stirring shaft protection (38), Stirring elements (36/37): e. g. R 1345, R 1301, R 301.1 Support holder (38)

Overhead stirrer	
Stirring quantity (H ₂ O)	80 l
Max. viscosity	50.000 mPas
Motor rating	
input / output	270 / 180 W
Output at stirring shaft	135 W
Max. ON-time	100 %
Max. torque at chuck	
per 60 rpm	1.515 Ncm
per 100 rpm	911 Ncm
per 1.000 rpm	91 Ncm
Speed range I (50 Hz)	40 - 370 rpm
Speed range II (50 Hz)	120 - 1.400 rpm
Speed range I (60 Hz)	48 - 444 rpm
Speed range II (60 Hz)	144 - 1.680 rpm
Speed display	scale
Chuck range	1 - 10 mm
Diameter / length of extension arm	16 mm / 160 mm
General data	
Dimensions (W x D x H)	140 x 279 x 468 mm
Weight	9,3 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 54

Ident. No.	Ident. No.
3297000 3 x 400 V 50 Hz	3297006 3 x 230 V 60 Hz



RW 47 D

The most powerful IKA® stirrer for laboratories, pilot plant stations and small-scale production.

- For stirring tasks up to 200 l (H₂O)
- Two speed ranges for highly viscous media and intensive mixing
- Cables with plugs not included in delivery

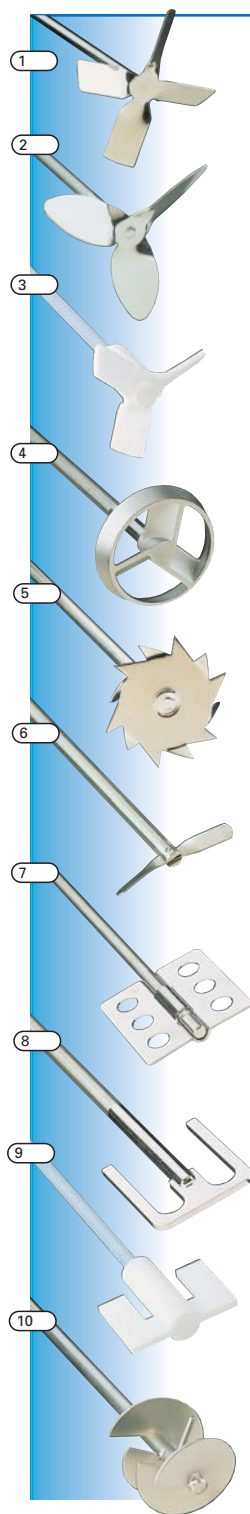
Accessories (Page):

R 472 Floor stand (107), R 474 Telescopic stand (107), R 302 Shaft protection (38), Stirring elements (36/37): e. g. R 2305, R 2311, SI 400 Safety switch (39), Fixing devices (39): SI 472, SI 474

Stirring quantity (H ₂ O)	200 l
Max. viscosity	100.000 mPas
Motor rating	
input / output	513 / 370 W
Output at stirring shaft	300 W
Max. ON-time	100 %
Max. torque at chuck	
per 60 rpm	4.642 Ncm
per 100 rpm	3.000 Ncm
per 1.000 rpm	285 Ncm
Speed range I (50 Hz)	57 - 275 rpm
Speed range II (50 Hz)	275 - 1.300 rpm
Speed range I (60 Hz)	69 - 330 rpm
Speed range II (60 Hz)	330 - 1.560 rpm
Speed display	scale
Chuck range	3 - 16 mm
Hollow shaft, inner diameter	13 mm
Fixing	flange
Dimensions (W x D x H)	145 x 340 x 445 mm
Weight	15 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 54

Ident. No.	Ident. No.
1602000 3 x 400 V 50 Hz	1602010 3 x 230 V 60 Hz

Stirring elements (stainless steel AISI 316L)



		Ident. No.	Stirrer Ø	Shaft Ø	Shaft length
1	Propeller stirrer, 4-bladed				
	R 1342	0741000	50 mm	8 mm	350 mm
	R 1345	0741300	100 mm	8 mm	540 mm
	R 2305	0739300	150 mm	13 mm	550 mm
	R 2302	0739000	150 mm	13 mm	800 mm
2	Propeller stirrer, 3-bladed				
	R 1381	1296000	45 mm	8 mm	350 mm
	R 1382	1295900	55 mm	8 mm	350 mm
	R 1385	0477700	140 mm	10 mm	550 mm
	R 1388	0477800	140 mm	10 mm	800 mm
3	R 1389 (PTFE-coated)	2343600	75 mm	8 mm	350 mm
4	Turbine stirrer				
	R 1311	2332900	30 mm	8 mm	350 mm
	R 1312	2333000	50 mm	8 mm	350 mm
	R 1313	2333100	70 mm	10 mm	400 mm
5	Dissolver stirrer				
	R 1300	0513500	80 mm	8 mm	350 mm
	R 1302	2387900	100 mm	10 mm	350 mm
	R 1303	2746700	42 mm	8 mm	350 mm
6	Centrifugal stirrer				
	R 1352	0756900	60 / 15 mm	8 mm	350 mm
	R 1355	1132700	100 / 24 mm	8 mm	550 mm
7	Paddle stirrer				
	R 1373	0757600	70 mm	8 mm	350 mm
	R 1375	0757700	70 mm	8 mm	550 mm
	R 1376	0757800	150 mm	10 mm	550 mm
	R 2311	0739500	150 mm	13 mm	800 mm
8	Anchor stirrer				
	R 1330	2022300	45 mm	8 mm	350 mm
	R 1331	2022400	90 mm	8 mm	350 mm
9	R 1332 (PTFE-coated)	2343700	60 mm	8 mm	350 mm
	R 1333	2747400	150 mm	10 mm	550 mm
10	Kneading stirrer				
	R 1335	2022500	45 mm	8 mm	350 mm

Propeller stirrer, 4-bladed

Standard stirring element. For drawing the material to be mixed from the top to the bottom. Local shearing forces. Generates axial flow in the vessel. Used at medium to high speeds.

Propeller stirrer, 3-bladed

Flow-efficient design. For drawing the material to be mixed from the top and the bottom. Minimum shearing forces. Used at medium to high speeds.

Turbine stirrer

For drawing the material to be mixed from above. Generates axial flow in the vessel. Minimum danger of injury when contact is made with vessel. Minimum shearing forces. Used at medium to high speeds.

Dissolver stirrer

Radial flow, for drawing the material to be mixed from the top and the bottom. High turbulence, high shearing forces. Particle reduction. Used at medium to high speeds.

Application examples

Max. speed	RW 14 basic / RW 16 basic	EUROSTAR digital	EUROSTAR power basic / power control-visc / P1	EUROSTAR power control-visc P4 / P7	RW 20.n / RW 20 DZM.n	RW 28 basic / RW 28 D	RW 47 D	
2.000 rpm	•	•	•	•	•			R 1342
800 rpm			•	•		•	•	R 1345
1.300 rpm							•	R 2305
600 rpm							•	R 2302
2.000 rpm	•	•	•	•	•			R 1381
2.000 rpm	•	•	•	•	•			R 1382
800 rpm				•		•	•	R 1385
400 rpm				•		•	•	R 1388
800 rpm	•	•	•	•	•			R 1389
2.000 rpm	•	•	•	•	•			R 1311
2.000 rpm	•	•	•	•	•			R 1312
800 rpm			•	•		•		R 1313
2.000 rpm		•	•		•	•		R 1300
1.000 rpm			•			•	•	R 1302
2.000 rpm	•	•	•		•			R 1303
2.000 rpm	•	•	•		•			R 1352
800 rpm			•			•	•	R 1355
1.000 rpm		•	•	•	•	•		R 1373
800 rpm			•	•		•		R 1375
800 rpm				•		•	•	R 1376
600 rpm							•	R 2311
1.000 rpm	•	•	•	•	•			R 1330
1.000 rpm			•	•		•		R 1331
800 rpm	•	•	•	•	•	•		R 1332
800 rpm				•		•	•	R 1333
2.000 rpm	•	•	•	•	•			R 1335

Centrifugal stirrer

Two-bladed, blades open with increasing speed. For stirring in round vessels with narrow necks. Effect is similar to that of a 4-bladed propeller stirrer. Medium to high speeds required.

Paddle stirrer

Tangential flow, minimum turbulence, good heat exchange, gentle treatment of product. Used at low to medium speeds.

Anchor stirrer

Tangential flow, high shearing rate at edges, minimum deposits on the vessel wall. Used at low speeds. Polymer reactions, even distribution of high mineral contents in liquids. The ideal stirrer for medium to highly viscous fluids.

Kneading stirrer

Tangential flow with oscillating compacting between the kneading surfaces. Minimum deposits on vessel. Used at low speeds.

IKA® Mixing

Overhead stirrers accessories



R 1001 Paddle stirrer

Spare for use with RW 11 basic.

Shaft length	160 mm
Shaft Ø	4 mm
Stirrer Ø	34 mm

Ident. No.

0527400



R 1002 Screw-type stirrer

For use with RW 11 basic.

Shaft length	140 mm
Shaft Ø	4 mm
Stirrer Ø	12 mm

Ident. No.

0527500



FK 1 Flexible coupling

Required for stirring tasks using glass stirring rods. The flexible coupling compensates for any structural variances.

Clamping range	6 - 10 mm
Max. torque	10 Ncm

Ident. No.

2336000



R 301 Stirring shaft protection

Prevents potential injuries at the rotating shafts and stirring elements. Can be directly attached to the EUROSTARs, RW 16 basic and the RW 20 stirring motors.

Length adjustment	190 / 310 mm
Material	Plexiglass

R 301.1 Support holder

For fixing the stirring shaft protection R 301 to the stand.

Length	275 mm
Extension arm Ø	13 mm

Accessories (Page):

Boss head clamp (108): R 182, R 270

Ident. No.

2603000 R 301

2604000 R 301.1



R 302 Stirring shaft protection

Prevents potential injuries due to the rotating shafts and stirring elements. Can be directly attached to the stirrer RW 47 D.

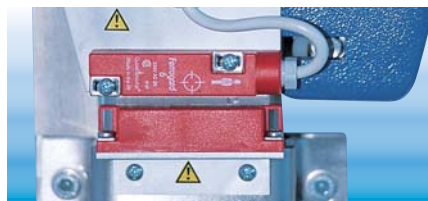
Dimensions (W x D x H)	139 x 99 x 250 mm
Material	Macrolon

Ident. No.

2953800

IKA® Mixing

Overhead stirrers accessories



SI 400 Safety switch

The SI 400 consists of an end switch (normally closed contact / switch) and a magnetic switch contact (actuator) which is mounted on the floor stand R 472 with the fixing device SI 472 and on the telescopic stand R 474 with the fixing device SI 474. The stirring unit RW 47 can only be switched on through the SI 400, when the agitator is adjusted in the mixing vessel to the user designated height. The power of the RW 47 automatically shuts off if the stirring unit is lifted off the designated height.

Also suitable for dispersing instrument T 65 D ULTRA-TURRAX® (61).

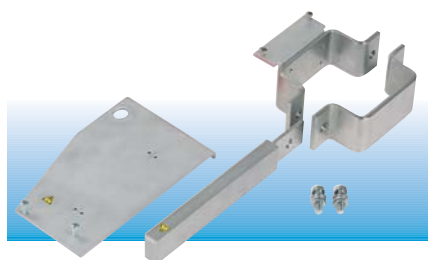
Dimensions end switch (W x D x H)	84 x 19 x 16 mm
Dimensions switch contact (W x D x H)	73 x 10 x 19 mm
Contact	1 normally closed contact
Casing material	plastic (ABS)
Protection class according to DIN EN 60529	IP 67
Operating temperature	-10 - 65 °C
Voltage / current	max. 250 VAC / 2 A

Accessories (Page):

Fixing devices (39): SI 472, SI 474

Ident. No.

3294800



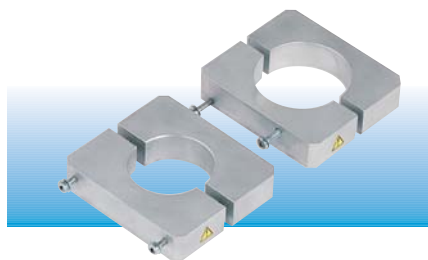
SI 472 Fixing device

To attach the safety switch SI 400 to the floor stand R 472.

Dimensions	80 x 80 mm
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Ident. No.

3264000



SI 474 Fixing device

To attach the safety switch SI 400 to the telescopic stand R 474 and to the telescopic stand T 653 (for T 65 D ULTRA-TURRAX®).

Dimensions (W x D x H)	95 x 83 x 20 mm
------------------------	-----------------

Ident. No.

3264400



RC 1 Remote control

Remote control to operate the EUROSTAR power control-visc (also P1, P4 and P7) over a 10 m cable.

- Provides problem-free control of stirrers even under load
- Displays actual speed, target speed and overload status

Power supply	2 rechargeable batteries
Max. cable length	10 m
Power consumption remote control	
Off-state	ca. 7 µA
On-state	ca. 7 mA
Dimensions (W x D x H)	65 x 140 x 30 mm
Weight (incl. battery)	0.3 kg

Ident. No.

3232000

IKA® Mixing Orbital shakers



lab dancer

Economic, compact test tube shaker with touch function.

- Its compact and clever design makes it an indispensable tool for every laboratory
- The lab dancer can be used with all small vessels of up to 30 mm in diameter, e. g. test tubes, centrifuge tubes, Eppendorf vessels
- Excellent mixing action
- The upper casing and the test tube surface are made from inert plastic
- Secure stand thanks to coated zinc die cast base
- Includes light 12 V power pack set

Shaking motion	orbital
Shaking stroke	4,5 mm
Shaken quantity (1 test tube)	max. 50 ml
Motor rating	
input / output	1,2 W / 0,8 W
Speed (fixed)	2.800 rpm
General data	
Material Casing	PP
Attachment	TPU
Bottom	zinc, coated
Dimensions (Ø x H)	100 x 70 mm
Weight	0,55 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 40

Ident. No.

3365000 100 - 240 V / 50/60 Hz



VORTEX Genius 3

New vortex shaker suitable for short-time operation (touch function), activated by pressing shaker attachment or continuous operation.

- Wide speed range, infinitely adjustable
- Different applications thanks to 3 interchangeable attachments and 7 inserts (e.g. Eppendorf tubes, microtiter plates, Erlenmeyer flasks 250 ml etc.), please order separately
- Attachments securely click onto appliance in any position
- Special strap (VG 3.36) ensures easy handling of round/Erlenmeyer flasks
- Sturdy metal zinc die cast casing
- Compact design
- Short-time operation activated by pressing attachment (touch function)
- Stable at high speeds thanks to special feet (silicon base with ultra high vibration damping)
- Eccentric with ball bearings
- Suitable for continuous operation with low self heating thanks to self ventilation of motor

Accessories (Page):

Attachments (48): VG 3.1, VG 3.2, VG 3.3

Inserts (48): VG 3.31, VG 3.32, VG 3.33, VG 3.34, VG 3.35, VG 3.36, VG 3.37

Shaking motion	orbital
Orbital diameter	4 mm
Motor rating	
input / output	160 W / 10 W
Permitted on-time	100 %
Adjustable speed range*	250 - 2.500 rpm
Speed display	scale 0 - 6
Speed setting	knob, front
General data	
Dimensions (W x D x H)	127 x 149 x 136 mm
Weight	4,5 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

*depending on attachment and loading

Ident. No.

3340000 230 V 50/60 Hz Available 2. quarter 2005

3340001 115 V 50/60 Hz Available 2. quarter 2005

IKA® Mixing Orbital shakers



1 MS 2 Minishaker
Universal orbital shaker

2 MS 1.1
Standard attachment, page 49.
(included with MS 2)

3 MS 1.2
One-hand attachment, page 49.
(included with MS 2)



MS 2 Minishaker
Universal, small-sized shaker. With an orbit of 4,5 mm and a speed range of 0 - 2.500 rpm, the MS 2 is suitable for all small vessels.

- Electronic speed control
- Convenient handling provided by control console facing the operator
- Flat construction
- Attractive design
- Short-time operation (touch function) activated by pressing attachment or continuous operation

Accessories (Page):
Attachments (49): MS 1.1, MS 1.2, MS 1.3, MS 1.21 (included with delivery)

Shaking motion	orbital
Orbital diameter	4,5 mm
Permissible shaking weight (with attachment)	0,5 kg
Motor rating input / output	30 / 23 W
Permissible ON-time	100 %
Speed range	0 - 2.500 rpm
Speed display	scale
Dimensions (W x D x H)	115 x 225 x 60 mm
Weight (without attachment)	3,5 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21



MS 1 Minishaker
Same features as MS 2, additionally suitable for work with a microtiter plate. Large selection of attachments.

Accessories (Page):
Attachments (49): MS 1.1, MS 1.2, MS 1.3, MS 1.21, MS 1.32, MS 1.4 (included with delivery)

	Ident. No.		Ident. No.
MS 2	L002050	230 V 50/60 Hz	L002051 115 V 50/60 Hz
MS 1	L001500	230 V 50/60 Hz	L001501 115 V 50/60 Hz

IKA® Mixing

Orbital shakers

VXR basic IKA Vibrax®

Optoelectronically controlled small shaker with a very wide speed range.

- Suitable for continuous operation
- New design and improved drive system
- Circular shaking motions
- Slow speeds are well maintained
- Attachments are interchangeable

Accessories (Page):

Attachments (50): VX 1, VX 2, VX 2E, VX 7, VX 8



Shaking motion	orbital
Orbital diameter	4 mm
Max. shaking weight (with attachment)	2 kg
Motor rating input / output	35/ 13,2 W
Max. ON-time	100 %
Speed range	0 - 2.200 rpm
Speed display	scale
Dimensions (W x D x H)	157 x 247 x 130 mm
Weight (without attachment)	5,7 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
2819000 230 V 50/60 Hz	2819001 115 V 50/60 Hz

MTS 2/4 digital microtiter shaker

Special shaker for shaking two or four microtiter plates.

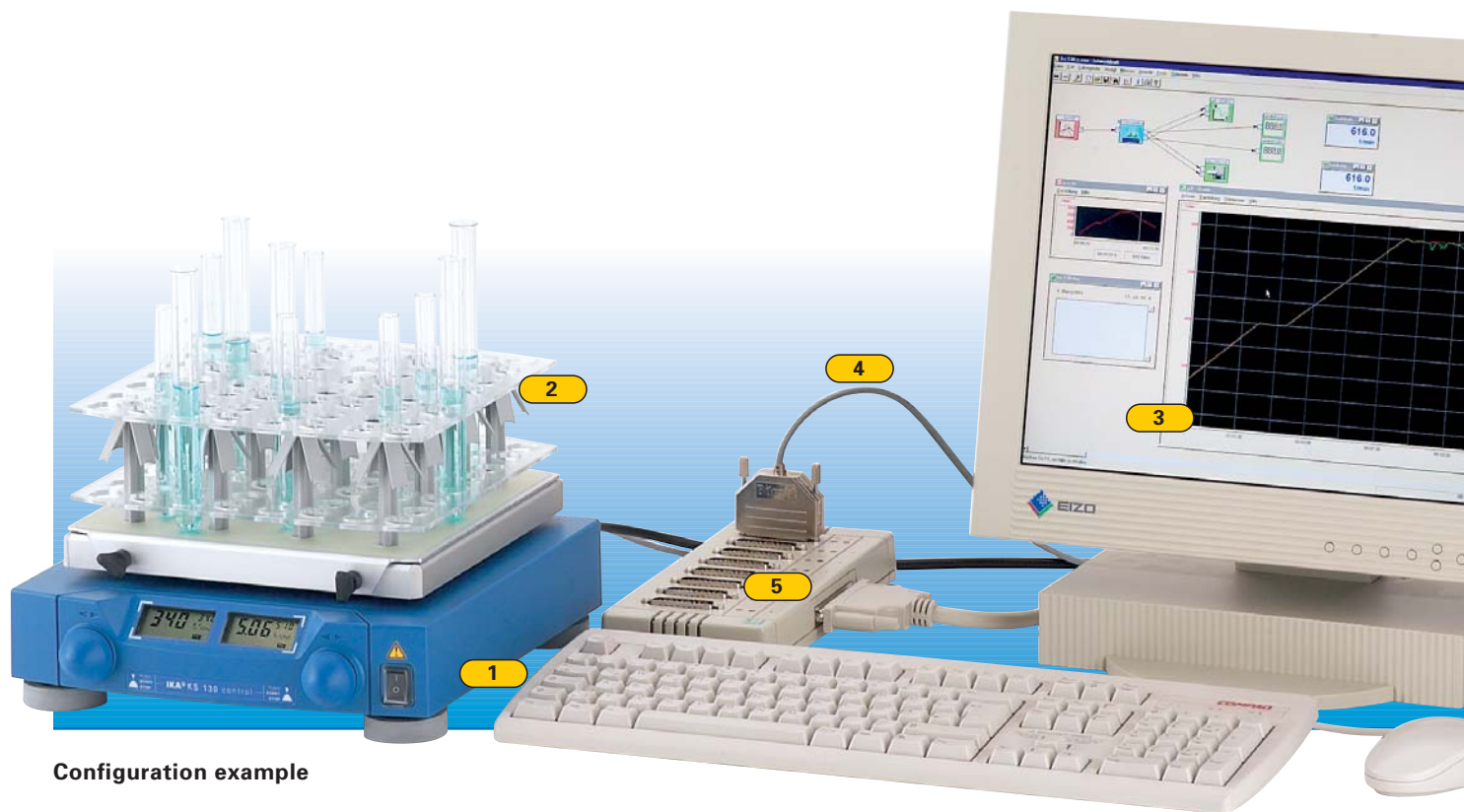
- Electronic speed control
- Digital timer
- Alarm to indicate set time has expired
- Incl. attachment (without microtiter plate)



Shaking motion	orbital
Orbital diameter	3 mm
Max. shaking weight	2 or 4 microtiter plates
Motor rating input / output	35 / 13,2 W
Max. ON-time	100 %
Speed range	0 - 1.100 rpm
Speed display	scale
Timer	∞ / 1 - 99 min
Timer display	digital
Dimensions (W x D x H)	185 x 320 x 105 mm
Weight (without attachment)	2,7 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
3208000 230 V 50/60 Hz	3208001 115 V 50/60 Hz

IKA® Mixing Orbital shakers



Configuration example

1 **KS 130 control**
Orbital shaker with RS 232 interface,
page 44.

2 **AS 130.4**
Test tube support,
page 51.

3 **labworldsoft®**
Laboratory software for
control and data collection,
page 131.

4 **PC 1.5**
Cable,
page 136.

5 **PCI 8.2**
Plug-in card for mounting in the PC to
control up to 8 instruments, page 135.

IKA® Mixing Orbital shakers



KS 130 basic

Small, quiet shaker ensures long life with ideal swivel motion, for a maximum shaking weight of 2 kg.

- Electronic adjustment of speed and timer
- LED display for speed and time adjustment
- Wide range of attachment combinations makes it possible to use almost all shapes and sizes of vessels
- Attachments are not included, please order separately

Accessories (Page):

Attachments (51): AS 130.1, AS 130.2, AS 130.3, AS 130.4

Shaking motion	orbital
Orbital diameter	4 mm
Max. shaking weight (with attachment)	2 kg
Motor rating input / output	45 / 10 W
Max. ON-time	100 %
Adjustable speed range	80 - 800 rpm
Speed display	LED line
Timer	∞ / 5 - 50 min
Dimensions (W x D x H)	270 x 316 x 98 mm
Weight (without attachment)	7,7 kg
Permissible ambient temperature	5 - 50 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
2980000 230 V 50/60 Hz	2980001 115 V 50/60 Hz



KS 130 control

Small, quiet shaker ensures long life with ideal swivel motion, for a maximum shaking weight of 2 kg.

- Electronic adjustment of speed and timer
- A digital display makes it possible to read the speed, timer function and operating modes
- Electronic time switching clock: 0 - 9 h 59 min or continuous operation (∞)
- With integrated end point positioning (for automated robot-controlled sampling)
- All functions can be controlled and documented with labworldsoft®
- Special version with reverse rotating direction on request
- Wide range of attachment combinations makes it possible to use almost all shapes and sizes of vessels
- Attachments are not included in delivery, please order separately

Accessories (Page):

Attachments (51): AS 130.1, AS 130.2, AS 130.3, AS 130.4, labworldsoft® (131), PC 1.5 Cable (136)

Shaking motion	orbital
Orbital diameter	4 mm
Max. shaking weight (with attachment)	2 kg
Motor rating input / output	45 / 10 W
Max. ON-time	100 %
Adjustable speed range	80 - 800 rpm
Speed display	digital
Timer	∞ / 0 - 9 h 59 min
Dimensions (W x D x H)	270 x 316 x 98 mm
Weight (without attachment)	8,8 kg
Permissible ambient temperature	5 - 50 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21
Interface	RS 232 / analog

Ident. No.	Ident. No.
2980100 230 V 50/60 Hz	2980101 115 V 50/60 Hz

IKA® Mixing

Orbital shakers



KS 260 basic

Compact, flat shaker with ideal swivel motion, for a maximum shaking weight of 7,5 kg.

- Electronic adjustment of speed and timer
- LED display for speed and time adjustment
- Wide range of attachment combinations makes it possible to use almost all shapes and sizes of vessels
- Attachments are not included, please order separately

Accessories (Page):

Attachment (52): AS 260.1, AS 260.2, AS 260.3

Shaking motion	orbital
Orbital diameter	10 mm
Max. shaking weight (with attachment)	7,5 kg
Motor rating	
input / output	45 / 10 W
Max. ON-time	100 %
Adjustable	
speed range	20 - 500 rpm
Speed display	LED - line
Timer	∞ / 5 - 50 min
Dimensions (W x D x H)	360 x 420 x 98 mm
Weight	8,1 kg
Permissible	
ambient temperature	5 - 50 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
2980200 230 V 50/60 Hz	2980201 115 V 50/60 Hz



KS 260 control

Compact, flat shaker with ideal swivel motion, for a maximum shaking weight of 7,5 kg.

- Electronic adjustment of speed and timer
- Digital display makes it possible to read the speed, timer function and operating modes
- Electronic time switching clock: 0 - 9 h 59 min or continuous operation (∞)
- With integrated end point positioning (for automated robot-controlled sampling)
- All functions can be controlled and documented with labworldsoft®
- Special version with reverse rotating direction on request
- Wide range of attachment combinations makes it possible to use almost all shapes and sizes of vessels
- Attachments are not included, please order separately

Accessories (Page):

Attachments (52): AS 260.1, AS 260.2, AS 260.3, PC 1.5 Cable (136), labworldsoft® (131)

Shaking motion	orbital
Orbital diameter	10 mm
Max. shaking weight (with attachment)	7,5 kg
Motor rating	
input / output	45 / 10 W
Max. ON-time	100 %
Adjustable	
speed range	10 - 500 rpm
Speed display	digital
Timer	∞ / 9 h 59 min
Timer display	digital
Dimensions (W x D x H)	360 x 420 x 98 mm
Weight	8,8 kg
Permissible	
ambient temperature	5 - 50 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21
Interface	RS 232 / analog

Ident. No.	Ident. No.
2980300 230 V 50/60 Hz	2980301 115 V 50/60 Hz

IKA® Mixing Orbital shakers

KS 501 digital

Low profile laboratory shaker with a pleasant design, large mounting surface and load capacity of up to 15 kg.

- Infinitely variable speed control of 0 - 300 rpm
- Digital display
- Orbital diameter 30 mm
- Ideal for vessels with a volume of more than 250 ml, e.g. round flasks, Erlenmeyer flasks, culture flasks and culture bottles
- Guaranteed continuous operation (∞) even under extreme loads
- Includes timer
- Attachments are not included, please order separately

Accessories (Page):

Attachments (53): AS 501.1, AS 501.4, AS 501.5

Shaking motion	orbital
Orbital diameter	30 mm
Max. shaking weight (with attachment)	15 kg
Motor rating input / output	70 / 19 W
Max. ON-time	100 %
Adjustable speed range	0 - 300 rpm
Speed display	digital
Timer	∞ / 0 - 56 min
Dimensions (W x D x H)	505 x 585 x 120 mm
Weight	24 kg
Permissible ambient temperature	5 - 50 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
2526400 230 V 50/60 Hz	2526401 115 V 50/60 Hz

Horizontal shakers

HS 501 digital

Low profile laboratory shaker with a pleasant design, large mounting surface and load capacity of up to 15 kg.

- Infinitely variable speed control of 0 - 300 rpm
- Digital display
- Orbital diameter 30 mm
- Ideal for all lying vessels, e.g. separating funnels
- Guaranteed continuous operation (∞) even under extreme loads
- Includes timer
- Attachments are not included in delivery, please order separately

Accessories (Page):

Attachments (53): AS 501.1, AS 501.2, AS 501.3, AS 501.4, AS 501.5, AS 501.6

Shaking motion	reciprocating
Stroke	30 mm
Max. shaking weight (with attachment)	15 kg
Motor rating input / output	70 / 19 W
Max. ON-time	100 %
Adjustable speed range	0 - 300 rpm
Speed display	digital
Timer	∞ / 0 - 56 min
Dimensions (W x D x H)	505 x 585 x 120 mm
Weight	24 kg
Permissible ambient temperature	5 - 50 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
2527000 230 V 50/60 Hz	2527001 115 V 50/60 Hz

IKA® Mixing

Horizontal shakers



HS 260 basic

Compact, flat shaker with ideal swivel motion, for a maximum shaking weight of 7,5 kg.

- Electronic adjustment of speed and timer
- LED display for speed and time adjustment
- Wide range of attachment combinations makes it possible to use almost all shapes and sizes of vessels
- Attachments are not included in delivery, please order separately

Accessories (Page):

Attachments (52): AS 260.1, AS 260.2, AS 260.3, AS 260.5

Shaking motion	reciprocating
Stroke	20 mm
Max. shaking weight (with attachment)	7,5 kg
Motor rating	
input / output	45 / 10 W
Max. ON-time	100 %
Adjustable	
speed range	20- 300 rpm
Speed display	LED line
Timer	∞ / 5 - 50 min
Dimensions (W x D x H)	360 x 420 x 100 mm
Weight	8,1 kg
Permissible	
ambient temperature	5 - 50 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
3066600 230 V 50/60 Hz	3066601 115 V 50/60 Hz



HS 260 control

Compact, flat shaker with ideal swivel motion, for a maximum shaking weight of 7,5 kg.

- Electronic adjustment of speed and timer
- Digital display makes it possible to read the speed, timer function and operating mode
- Electronic time switching clock: 0 - 9 h 59 min or continuous operation (∞)
- With integrated endpoint positioning (for automated robot-controlled sampling)
- All functions can be controlled and documented with labworldsoft® software
- Special version with reverse rotating direction on request
- Wide range of attachment combinations makes it possible to use almost all shapes and sizes of vessels
- Attachments are not included, please order separately

Accessories (Page):

Attachments (52): AS 260.1, AS 260.2, AS 260.3, AS 260.5, PC 1.5 Cable (136), labworldsoft® (131)

Shaking motion	reciprocating
Stroke	20 mm
Max. shaking weight (with attachment)	7,5 kg
Motor rating	
input / output	45 / 10 W
Max. ON-time	100 %
Adjustable	
speed range	10- 300 rpm
Speed display	digital
Timer	∞ / 9 h 59 min
Timer display	digital
Dimensions (W x D x H)	360 x 420 x 100 mm
Weight (without attachment)	8,8 kg
Permissible	
ambient temperature	5 - 50 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21
Interface	RS 232 / analog

Ident. No.	Ident. No.
3066700 230 V 50/60 Hz	3066701 115 V 50/60 Hz

IKA® Mixing

Shakers accessories (VORTEX Genius 3)



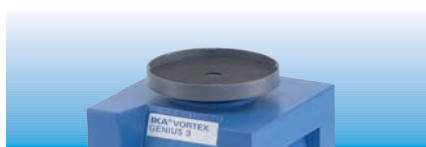
VG 3.1 Standard attachment

Standard attachment for reagent glasses / small vessels (continuous / touch operation), included with delivery.

Ident. No.

3341200

Available 2. quarter 2005



VG 3.2 One-hand attachment

One-hand attachment, 88 mm, round, with rubber insert (continuous / touch operation).

Ident. No.

3342300

Available 2. quarter 2005



VG 3.3 Universal attachment

Universal attachment, 150 mm, with rubber insert (continuous / touch operation).

Ident. No.

3342400

Available 2. quarter 2005



VG 3.31 Test tube attachment (for VG 3.3)

For 54 Eppendorf tubes (continuous operation).

Ident. No.

3344300

Available 2. quarter 2005



VG 3.32 Test tube attachment (for VG 3.3)

For 18 reagent glasses, 10 mm (continuous operation).

Ident. No.

3343900

Available 2. quarter 2005



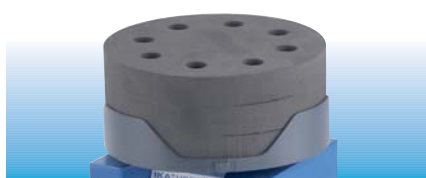
VG 3.33 Test tube attachment (for VG 3.3)

For 12 reagent glasses, 12 mm (continuous operation).

Ident. No.

3344000

Available 2. quarter 2005



VG 3.34 Test tube attachment (for VG 3.3)

For 8 reagent glasses, 16 mm (continuous operation).

Ident. No.

3344100

Available 2. quarter 2005



VG 3.35 Test tube attachment (for VG 3.3)

For 8 reagent glasses, 20 mm (continuous operation).

Ident. No.

3344200

Available 2. quarter 2005



VG 3.36 Erlenmeyer flask attachment (for VG 3.3)

For 1 Erlenmeyer / round flask from 100 to 250 ml (continuous operation).

Ident. No.

3342100

Available 2. quarter 2005



VG 3.37 Microtiter plate attachment (for VG 3.3)

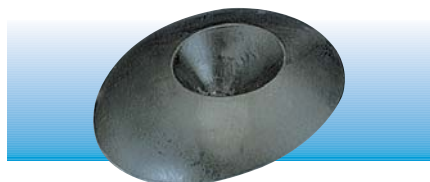
For 1 standard microtiter plate (continuous operation).

Ident. No.

3344400

Available 2. quarter 2005

Shakers accessories (MS 1/ MS 2)



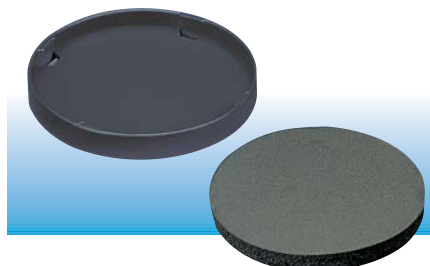
MS 1.1 Standard attachment

For mounting test tubes and other small vessels of up to 30 mm in diameter. A trough prevents slipping caused by vibrations.

Included with the minishakers MS 1 and MS 2.

Ident. No.

L001260



MS 1.2 One-hand attachment

With a soft foam platform for processing larger vessels as well, e.g. 100 ml flasks.

Diameter 85 mm

Included with the minishakers MS 1 and MS 2.

Ident. No.

L001900



MS 1.3 Test tube attachment

For various foam inserts for processing of several test tubes simultaneously and in continuous operation.

Included with the minishakers MS 1 and MS 2.

Accessories (Page 49/50):

MS 1.21, MS 1.31, MS 1.32, MS 1.33, MS 1.34

Ident. No.

L001490



MS 1.21 One-hand insert

Foam insert for insertion into the test tube attachment MS 1.3.

Included with the minishakers MS 1 and MS 2.

Ident. No.

L001540

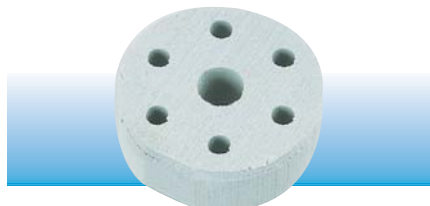


MS 1.31 Test tube insert

Bore holes (number)	14
Hole Ø	8 mm
Material	ethylvinyl-acetate

Ident. No.

L001840



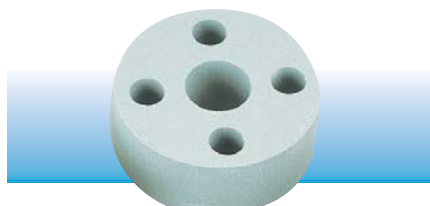
MS 1.32 Test tube insert

Bore holes (number)	6
Hole Ø	10 mm
Material	ethylvinyl-acetate

Included with the minishakers MS 1 and MS 2.

Ident. No.

L001850



MS 1.33 Test tube insert

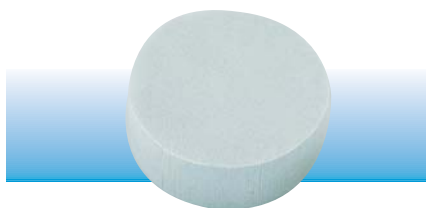
Bore holes (number)	4
Hole Ø	15 mm
Material	ethylvinyl-acetate

Ident. No.

L001860

IKA® Mixing

Shakers accessories (MS 1/ MS 2 / VXR)



MS 1.34 Test tube insert
For any number of bore holes.

Material ethylvinyl-acetate

Ident. No.

L001830



MS 1.4 Microtiter plate attachment
For use with a microtiter plate.

Dimensions microtiter plate (W x D) 85 x 130 mm

Included with minishaker MS 1.

Ident. No.

L001280



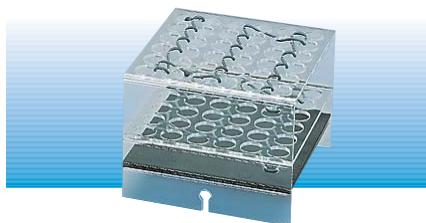
VX 1 One-hand attachment
For shaking single, non-fixed vessels of
1 - 250 ml.

Dimensions (W x D x H) 130 x 135 x 40 mm

Weight 160 g

Ident. No.

0607200



VX 2 Test tube attachment
For up to 36 test tubes or centrifugal
tubes with a diameter of 16 mm.

Dimensions (W x D x H) 140 x 145 x 115 mm

Material Macrolon

Weight 300 g

Ident. No.

0568900



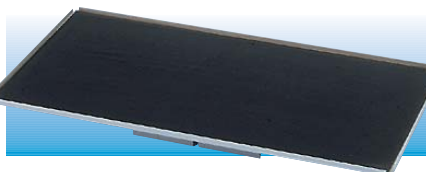
VX 2E "Eppendorf" attachment
For intensive mixing of up to 64
"Eppendorf" tubes (1.5 ml).

Dimensions (W x D x H) 210 x 210 x 65 mm

Weight 240 g

Ident. No.

1618100



VX 7 Dish attachment
For careful mixing of culture bottles,
Petri dishes, ect.

Dimensions (W x D x H) 410 x 210 x 40 mm

Weight 740 g

Ident. No.

0953300



VX 8 Universal attachment
For rapid and secure clamping, e.g. 2
Erlenmeyer flasks up to 500 ml.

Dimensions (W x D x H) 265 x 136 x 60 mm

Clamping length 25 - 135 mm

Min. height of vessel 80 mm

Weight 760 g

Ident. No.

0910400

IKA® Mixing

Shakers accessories (KS 130)



AS 130.1 Universal attachment

For use with various types of vessels by means of universal, infinitely variable clamping rolls.

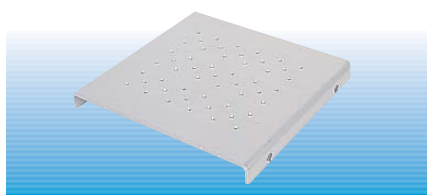
Dimensions (W x D x H)	325 x 234 x 88 mm
Set-up surface	220 x 220 mm
Weight	850 g

Included with delivery (Page):

- 1 x AS 1.30 Basic holder (54)
- 3 x AS 1.31 Clamping roll (54)
- 6 x AS 1.5 Fastening screw (54)

Ident. No.

8017300



AS 130.2 Fixing clip attachment

For processing round flasks, measuring flasks and Erlenmeyer flasks. Please order fixing clips separately.

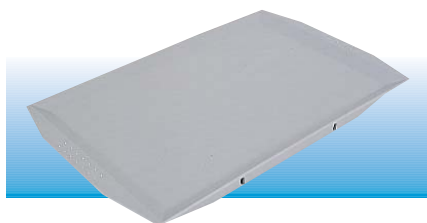
Accessories (Page):

Fixing clips (55): AS 2.1, AS 2.2, AS 2.3, AS 2.4, AS 2.5

Dimensions (W x D x H)	230 x 230 x 24 mm
Capacity: Number of fixing clips (volume)	20 x AS 2.1 (25 ml) 12 x AS 2.2 (50 ml) 12 x AS 2.3 (100 ml) 6 x AS 2.4 (250 ml) 4 x AS 2.5 (500 ml)
Weight	650 g

Ident. No.

3115000



AS 130.3 Dish attachment

For smooth shaking operations in the low viscosity range, e.g. Petri dishes or culture bottles. With integrated slip-resistant foil (PP).

Dimensions (W x D x H)	420 x 270 x 32 mm
Set-up surface	220 x 340 mm
Weight	370 g

Ident. No.

3120000



AS 130.4 Test tube support

For intensive shaking, e.g. small tubes, test tubes, cuvettes, centrifuge tubes.

Dimensions (W x D x H)	220 x 230 x 95 mm
Capacity	64
Vessel Ø	10 - 16 mm
Min. height of vessel	80 mm
Weight	670 g

Ident. No.

3120300

Shakers accessories (HS / KS 260)



AS 260.1 Universal attachment

For various types of vessels. Infinitely variable clamping rolls allow universal adaptation to the vessels.

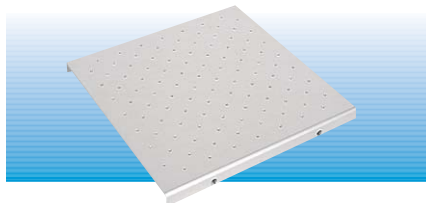
Dimensions (W x D x H)	425 x 335 x 135 mm
Set-up surface	320 x 320 mm
Weight	1.600 g

Included with delivery (Page):

1 x AS 1.60 Basic holder (54),
4 x AS 1.61 Clamping roll (54),
8 x AS 1.5 Fastening screw (54)

Ident. No.

8017400



AS 260.2 Fixing clip attachment

For shaking flasks, Erlenmeyer flasks and bottles with a round crosssection (without fixing clips).

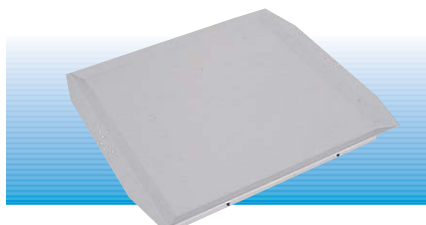
Accessories (Page):

Fixing clips (55): AS 2.1, AS 2.2, AS 2.3, AS 2.4, AS 2.5

Dimensions (W x D x H)	330 x 330 x 24 mm
Capacity: Number of fixing clips (volume)	56 x AS 2.1 (25 ml) 23 x AS 2.2 (50 ml) 23 x AS 2.3 (100 ml) 11 x AS 2.4 (250 ml) 9 x AS 2.5 (500 ml)
Weight	1.290 g

Ident. No.

3115500



AS 260.3 Dish attachment

For smooth movement for cell cultures, nutrient media in Petri dishes, culture bottles and vessels with a low center of gravity. With integrated slip-resistant foil (PP).

Dimensions (W x D x H)	410 x 370 x 32 mm
Set-up surface	320 x 320 mm
Weight	460 g

Ident. No.

3120600



AS 260.5 Separating funnel attachment

For shaking out, salting out, extracting, eluting, enriching. The 3 clamping rolls (included in delivery) are height-adjustable for adaption to different separating funnel sizes. The separating funnels are secured with O-rings (5 O-rings included).

Dimensions (W x D x H)	334 x 425 x 145 ml
Capacity (number of separating funnels per volume, pear-shaped)	6 x 50 ml 5 x 100 ml 3 x 250 ml 3 x 500 ml
Weight	1.550 g

Ident. No.

3120900

IKA® Mixing

Shakers accessories (HS / KS 501)

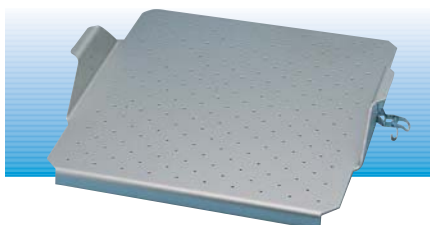


AS 501.1 Universal attachment

For various types of vessels with a minimum volume of 50 ml. Ideally more than 250 ml. The clamping rolls may be adjusted to two levels.

Dimensions (W x D x H)	480 x 500 x 120 mm
Set-up surface	420 x 420 mm
Weight	4.000 g
Included with delivery (Page):	1 x AS 1.10 Basic holder (54) 6 x AS 1.11 Clamping roll (54) 12 x AS 1.6 Fastening screw (54)

Ident. No.
8000200



AS 501.4 Fixing clip support

For shaking flasks, Erlenmeyer flasks and pear-shaped flasks (without fixing clips).

Accessories (Page):

Fixing clips (55): AS 2.1, AS 2.2, AS 2.3, AS 2.4, AS 2.5

Dimensions (W x D x H)	475 x 460 x 95 mm
Capacity: Number of fixing clips (volume)	50 x AS 2.1 (25 ml) 48 x AS 2.2 (50 ml) 25 x AS 2.3 (100 ml) 16 x AS 2.4 (250 ml) 12 x AS 2.5 (500 ml)
Weight	2.640 g

Ident. No.
2341100



AS 501.5 Dish attachment

For smoothly shaking dishes, but also for smooth mixing in vessels with a large, flat bottom (wide-necked Erlenmeyer flasks and beakers). A plastic foil with mild adhesive prevents the vessel from slipping.

Dimensions (W x D x H)	450 x 450 x 45 mm
Set-up surface	420 x 420 mm
Weight	1.120 g

Ident. No.
2339600

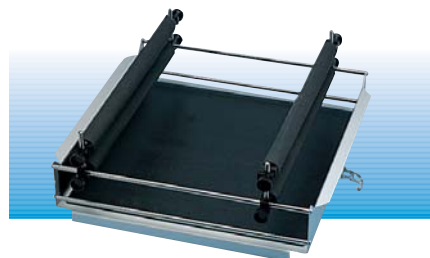


AS 501.2 Separating funnel attachment

For shaking out, eluting, extracting, gassing out, dissolving, enriching, etc. Adjustment for the clamping rolls is infinitely variable, the set-up height can be changed by means of clamping devices.

Dimensions (W x D x H)	480 x 505 x 190 mm
Capacity (number of separating funnels per volume, pear-shaped)	12 x 50 ml 10 x 100 ml 6 x 250 ml
Weight	4.180 g
Included with delivery (Page):	1 x AS 1.10, 6 x AS 1.11, 6 x AS 1.6 (54), 6 x AS 1.7 (55)

Ident. No.
8000300



AS 501.3 Separating funnel attachment

Same features as AS 501.2.

Dimensions (W x D x H)	480 x 505 x 190 mm
Capacity (number of separating funnels per volume)	4 x 500 ml 3 x 1.000 ml 2 x 2.000 ml
Weight	3.720 g

Included with delivery (Page):
1 x AS 1.10, 4 x AS 1.11, 4 x AS 1.6 (54), 6 x AS 1.7 (55)

Ident. No.
8000400



AS 501.6 Separating funnel attachment

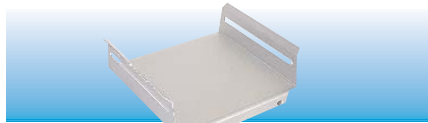
Same features as AS 501.2. This attachment will hold 4 x 1.000 ml separating funnels.

Dimensions (W x D x H)	480 x 505 x 225 mm
Capacity (number of separating funnels per volume, pear-shaped)	4 x 1.000 ml
Weight	5.500 g

Included with delivery (Page):
1 x AS 1.10, 4 x AS 1.6 (54), 4 x AS 1.12, 8 x AS 1.13 (55)

Ident. No.
8000500

IKA® Mixing Shakers accessories



AS 1.30 Basic holder

For use with universal attachment AS 130.1.

Dimensions (W x D x H) 252 x 234 x 88 mm

Accessories (Page): AS 1.31, AS 1.5 (54)

Ident. No.

3148000



AS 1.60 Basic holder

For use with universal attachment AS 260.1.

Dimensions (W x D x H) 348 x 335 x 135 mm

Accessories (Page): AS 1.31, AS 1.5 (54)

Ident. No.

3149000



AS 1.10 Basic holder

For use with universal attachment AS 501.1 and separating funnel attachments AS 501.2, AS 501.3 and AS 501.6.

Dimensions (W x D x H) 480 x 480 x 120 mm

Accessories (Page):

AS 1.11, AS 1.6 (54), AS 1.7, AS 1.8, AS 1.12, AS 1.13 (55)

Ident. No.

2339700



Clamping roll

AS 1.31

For use with basic holder AS 1.30

Length 228 mm

AS 1.61

For use with basic holder AS 1.60

Length 335 mm

AS 1.11

For use with basic holder AS 1.10

Length 410 mm

Ident. No.

3030500 AS 1.31

3030501 AS 1.61

2339800 AS 1.11



AS 1.5 Fastening screw

Fastening screw for the universal attachments AS 130.1, AS 260.1 and the separating funnel attachment AS 260.5. Two AS 1.5 fastening screws are required for fastening a clamping roll onto the corresponding basic holder.

Ident. No.

2979400



AS 1.6 Clamping device

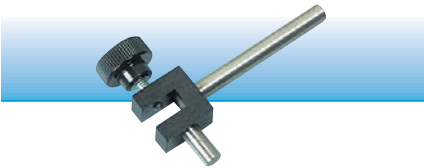
Two AS 1.6 clamping devices are required for fastening a clamping roll to the corresponding basic holder (for basic holder AS 1.10 only)

Ident. No.

1268400

IKA® Mixing

Shakers accessories



AS 1.7 Clamping device

Two AS 1.6 and two AS 1.7 clamping devices are required for fastening two clamping rolls one above the other (for clamping separating funnels). For basic holder AS 1.10 only.

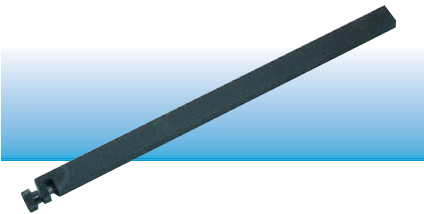
Ident. No.
1269200



AS 1.8 Supporting clamping device

Two AS 1.6 clamping devices and two AS 1.8 supporting clamping devices are required if a clamping roll is to be attached at a higher position (e.g. for fixing a vessel which has a higher point of gravity). For basic holder AS 1.10 only.

Ident. No.
1268900



AS 1.12 Supporting bar

For attaching two AS 1.13 ground section holders for fixing 1.000 ml separating funnels. For basic holder AS 1.10 only.

Length 437 mm

Accessories (Page):
AS 1.13 (55)

Ident. No.
2594500



AS 1.13 Ground section holder

For attaching separating funnels with ground opening NS 29 (2x AS 1.13 necessary per separating funnel). For basic holder AS 1.10 only.

Ident. No.
2597000



AS 2.1 Fixing clips

AS 2.2 Fixing clips

AS 2.3 Fixing clips

AS 2.4 Fixing clips

AS 2.5 Fixing clips

For flask volume	25 ml
For flask volume	50 ml
For flask volume	100 ml
For flask volume	200 ml / 250 ml
For flask volume	500 ml

Ident. No.
1234300 AS 2.1
1234400 AS 2.2
1234500 AS 2.3
1234600 AS 2.4
1234700 AS 2.5

Laboratory kneader (measuring kneader see page 130)



HKD-T 06 D IKA® High-performance laboratory kneader

For processing non-flowable, highly viscous media. Uniform mixing is based on intensive processing by means of wide-bladed kneading elements. The kneading medium is moved within the trough both horizontally and vertically. Additional media quantities may be added during the kneading operation.

- The double-walled kneading chamber allows cooling or heating of the product
- The product temperature may be measured directly behind the kneading blades
- Trough can easily be removed
- Kneading blades can easily be removed
- Short kneading time
- The narrow gap between the kneading blades and trough wall ensures efficient wipe-off
- Standard version equipped for vacuum operation
- Trough cover with inspection glass and safety screen

Accessories (Page):

HKD 06.2 Plunger (130),
DTM 12 Digital temperature measuring device (109),
LT 6 control Circulation thermostat (89),
VC 2 Vacuum controller (112),
HKD 06.10 Kneading blade (130)

Shape of kneading blades	duplex
Trough	
Useful volume min. / max.	100 / 300 ml
Total volume	600 ml
Attainable vacuum	50 mbar
Trough base for heating up to	210 °C
Bore hole for accommodating temperature measuring sensor PT 100.27	yes
Materials in contact with medium	stainl. steel (AISI 316 Cb)
Drive	
Motor rating	
input / output	320 / 180 W
Motor principle	asynchronous
Motor protection	thermo contact
Nominal torque	48 Nm
Speed of	
front kneading blade	35 rpm
Speed of	
back kneading blade	18 rpm
Safety device	cover contact
General data	
Dimensions (W x D x H)	660 x 250 x 380 mm
Weight	27 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 54

Ident. No.	Ident. No.
1911800 3 x 400 V / 50 Hz	1911803 3 x 230 V / 60 Hz

IKA® Particle size reduction Dispersers (batch operation)



T 8 ULTRA-TURRAX®

Dispersing instrument for volumes from 0,5 ml - 50 ml (H₂O). With rotor-stator configurations which have been specifically developed for tissue decomposition, for clinical and medical diagnostics and for suspensions, e.g. centrifuge products.

- Mini-dispersing elements with 5 mm diameter for Eppendorf tubes, centrifugal glasses, cuvettes, ect. are available
- Powerful 100 W drive with infinitely variable speed control (5.000 - 25.000 rpm)
- Safety provided by 12 V low voltage
- Lightweight, the drive weighs only 400 g
- May be optionally used as hand-held or standing instrument
- Power pack included
- Dispersing elements not included with delivery

Accessories (Page):

Dispersing elements (62),
T 8.10 Dispersing station (70)

Motor rating	
input / output	100 / 70 W
Volume range (H ₂ O)	0,5 - 50 ml
Max. viscosity	5.000 mPas
Speed range	5.000 - 25.000 min ⁻¹
Speed adjustment	stepless
Speed display	scale (1 - 6)
Noise without	
dispersing element	64 dB (A)
Overload protection	yes
Dimensions (W x D x H)	42 x 44 x 250 mm
Weight	0,4 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 20

Ident. No.	Ident. No.
8002000 230 V 50/60 Hz	8002001 115 V 50/60 Hz

IKA® Particle size reduction

Dispersers (batch operation)



T 10 basic

New, competitively priced dispersing instrument for volumes of 0,5 to 100 ml. A wide speed range allows you to work at high circumferential speeds even with small rotor diameters. Perfect ergonomic finish.

- Immense speed stability with various media thanks to high performance 125 Watt drive
- Ideal for manual operation thanks to its light weight and ergonomic form
- Extremely mobile thanks to direct mains operation (no transformer required)
- Stainless steel dispersing elements (5 mm, 8 mm and 10 mm diameter) can be cleaned quickly and easily as they can be dismantled without tools
- Plastic disposable dispersing elements in two sizes, particularly suitable for PCR analysis
- **Quick-release coupling makes changing the dispersing elements easy**
- Included with delivery: storage case for drive, clamp, dispersing elements and spare seals and clamp R 200

Motor rating	
input / output	125 W / 75 W
Volume range (H ₂ O)	0,5 - 100 ml
Max. viscosity	5000 mPas
Speed adjustment	stepless
Speed range	8.000 - 30.000 rpm
Speed stability	< 6 %
Speed display	scale
Noise without dispersing element	65 (dB) A
Overload protection	yes
Permitted ON-time (ON/OFF)	max. 10 min / min. 5 min
General data	
Dimensions (W x D x H)	45 x 60 x 180 mm
Weight	0,4 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 31

Accessories (Page):

R 200 Clamp (108), R 104 Stand (106), H 44 Boss head clamp (108), Dispersing elements (64): S 10 N - 5 G, S 10 N - 8 G, S 10 N - 10 G, Plastic dispersing elements (66): S 10 D - 7 G - KS - 65, S 10 D - 7 G - KS - 110

Available 2. quarter 2005

Ident. No.	Ident. No.
3420000 230 V 50/60 Hz	3420001 115 V 50/60 Hz



T 18 ULTRA-TURRAX®

An excellent dispersing instrument at a remarkable price! Volume range: 1 - 1.500 ml (H₂O). An extended speed range allows to work at high circumferential speeds.

- Electronic speed control
- Electronic temperature control
- Electronic overload protection
- Quick release button for dispersing element
- Dispersing elements not included with delivery

Accessories (Page):

Dispersing elements (62), Stands (106): R 1825, R 1826, R 1827, R 182 Boss head clamp (108), DZM control.o Revolution counter (111)

Motor rating	
input / output	300 / 160 W
Volume range (H ₂ O)	1 - 1.500 ml
Max. viscosity	5.000 mPas
Speed range	6.000 - 24.000 rpm
Speed adjustment	stepless
Speed display	scale (1 - 6)
Noise without dispersing element	78 dB (A)
Overload protection	yes
Diameter / length of extension arm	13 mm / 165 mm
Dimensions (W x D x H)	78 x 78 x 220 mm
Weight	1,2 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 20

Ident. No.	Ident. No.
L004638 230 V 50/60 Hz	L004637 115 V 50/60 Hz

IKA® Particle size reduction

Dispersers (batch operation)



Configuration example

1

T 18 basic ULTRA-TURRAX®

Dispersing instrument for quantities up to approx. 1.500 ml, page 57.

2

S 18 N - 19 G

Dispersing element for quantities between 10 - 1.500 ml, page 62.

5

R 1827

Plate stand, page 106.

6

R 182

Boss head clamp, page 108.

7

RH 3

Strap clamp, page 108.

3

T 25 basic ULTRA-TURRAX®

Dispersing instrument for quantities up to 2.000 ml, page 59.

4

S 25 N - 18 G

Dispersing element for quantities between 10 - 1.500 ml, page 63.

5

R 1827

Plate stand, page 106.

6

R 182

Boss head clamp, page 108.

7

RH 3

Strap clamp, page 108.

IKA® Particle size reduction

Dispersers (batch operation)



T 25 basic ULTRA-TURRAX®

High-performance dispersing instrument for volumes from 1 - 2.000 ml (H₂O). The spectrum of applications ranges from homogenizing waste water samples to the use in laboratory reactors, to dispersion tasks under vacuum / pressure and sample preparation in medical diagnostics.

- Three types of shaft bearings
- As standard, the T 25 basic is equipped with a connection for a revolution counter
- Rotor-Stator configurations have thirty years of proven, guaranteed comparability of test results
- Wide range of dispersing elements (not included with delivery)

Accessories (Page):

Dispersing elements (62/63), Stands (106): R 1825, R 1826, R 1827, R 182 Boss head clamp (108), DZM control.o Revolution counter (111), RH 3 Strap clamp (108)

Motor rating	
input / output	500 / 300 W
Volume range (H ₂ O)	1 - 2.000 ml
Max. viscosity	5.000 mPas
Speed adjustment	stepless
Speed range	6.500 - 24.000 rpm
Speed stability	1 %
Speed display	scale
Noise without dispersing element	73 dB (A)
Diameter / length of extension arm	13 mm / 175 mm
Overload protection	yes
Dimensions (W x D x H)	65 x 80 x 240 mm
Weight	1,6 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 20

Ident. No.		Ident. No.	
2953000	230 V 50/60 Hz	2953001	115 V 50/60 Hz



T 50 basic ULTRA-TURRAX®

High-performance dispersing instrument for volumes from 0,25 - 30 l (H₂O).

- Three types of shaft bearings
- Several rotor-stator configurations
- Agitator shaft R 50 allows the use of the T 50 basic as a "high-speed stirrer" (not included in delivery)
- Infinitely variable speed control, for continuous operation
- Reproducible operations due to constant speed even with viscosity changes
- Large selection of dispersing elements
- Plug-in connectors facilitate exchange of dispersing elements
- Electronic safety circuit and smooth start
- As standard, the T 50 basic is equipped with a connection for the revolution counter
- Wide range of dispersing elements (not included in delivery)

Accessories (Page):

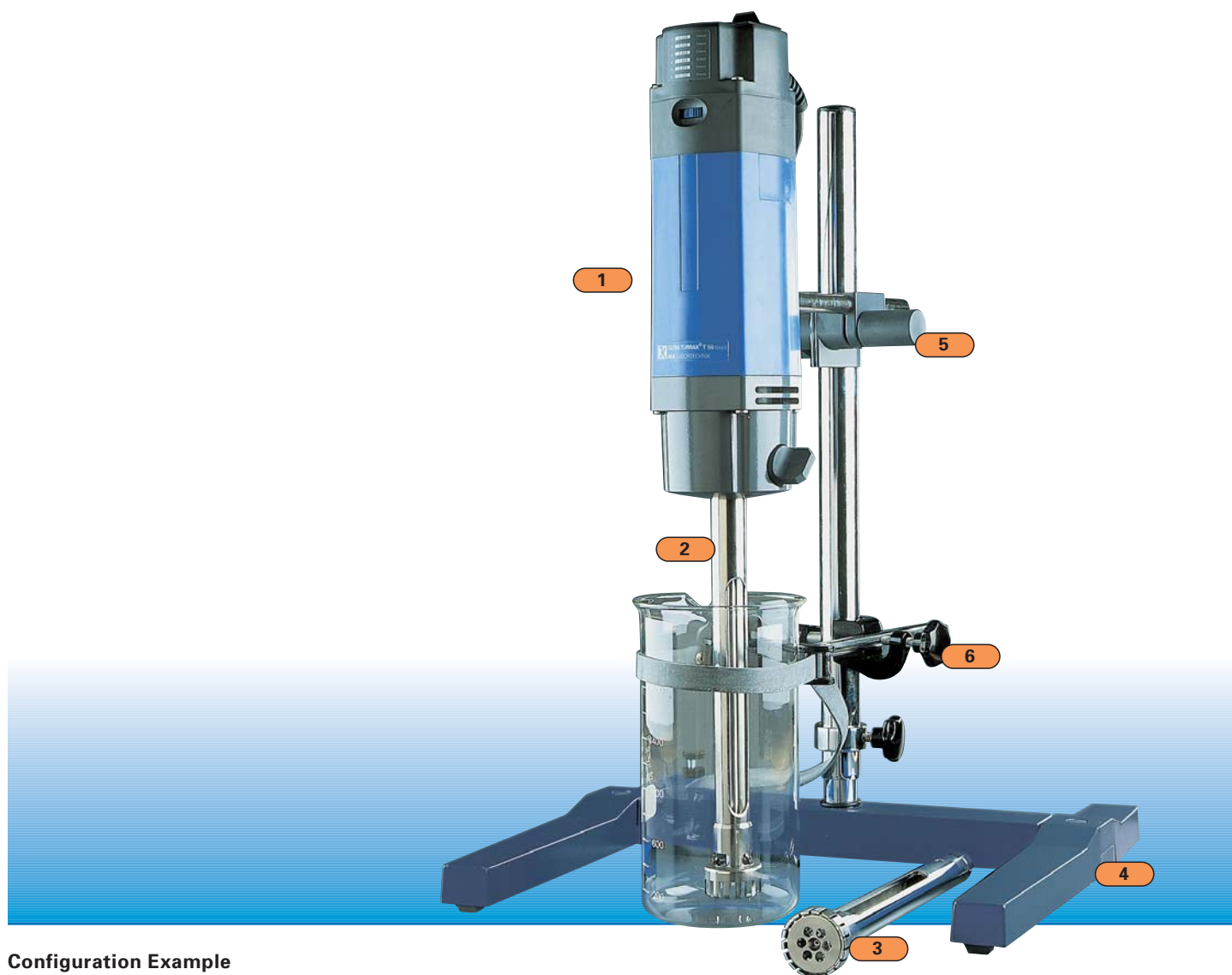
Dispersing elements (64/65), Special dispersing elements (68), Stands (106): R 2722, R 2723, R 271 Boss head clamp (108), DZM control.o Revolution counter (111), RH 5 Strap clamp (108)

Motor rating	
input / output	1.100 / 700 W
Volume range (H ₂ O)	0,25 - 30 l
Max. viscosity	5.000 mPas
Speed adjustment	stepless
Speed range	4.000 - 10.000 rpm
Speed stability	1 %
Speed display	scale
Noise without dispersing element	72 dB(A)
Diameter / length of extension arm	16 mm / 220 mm
Overload protection	yes
Dimensions (W x D x H)	125 x 120 x 367 mm
Weight	6 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.		Ident. No.	
2953100	230 V 50/60 Hz	2953101	115 V 50/60 Hz

IKA® Particle size reduction

Dispersers (batch operation)



Configuration Example

1

T 50 basic ULTRA-TURRAX®

Dispersing instrument for quantities up to approx. 30 l, page 59.

2

S 50 N - G 45 G

Dispersing element for coarse crushing, page 64.

3

S 50 N - G 45 F

Dispersing element for subsequent fine crushing, page 65.

4

R 2723

Telescopic stand, page 106.

5

R 271

Boss head clamp, page 108.

6

RH 5

Strap clamp, page 108.

IKA® Particle size reduction

Dispersers (batch operation)



T 65 D ULTRA-TURRAX®

The high-performance T 65 D dispersing instrument has been designed for typical pilot plant stations quantities from 2 - 50 l (H₂O).

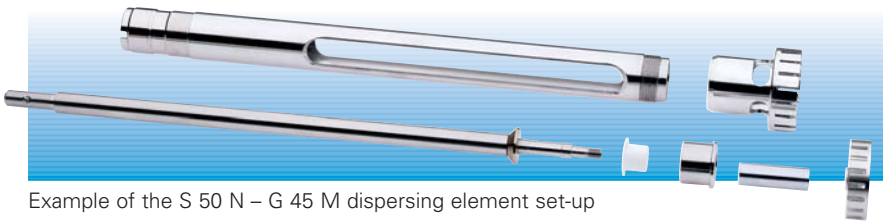
- Three rotor-stator configurations for a variety of applications (not included with delivery)
- Plug-in connectors facilitate exchange of dispersing elements
- Speed controller on request
- Dispersing instruments for the production area: ask for our process technology catalogs
- Cables and plugs not included with delivery

Accessories (Page):

Dispersing elements (64), T 653 Stand (107), SI 400 Safety switch (39), SI 474 Fixing device (39)

Motor rating	
input / output	1.800 / 1.500 W
Volume range (H ₂ O)	2 - 50 l
Max. viscosity	5.000 mPas
Speed range - fixed	7.200 rpm
Speed stability	5 %
Noise without dispersing element	75 dB (A)
Overload protection	yes
Dimensions (W x D x H)	190 x 580 x 380 mm
Weight	28 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 54

Ident. No.	Ident. No.
1602800 3 x 400 V 50 Hz	1602802 3 x 230 V 60 Hz



Example of the S 50 N – G 45 M dispersing element set-up

Dispersing elements

The variety of media to be processed also requires a variety of rotor-stator configurations and seals. In many cases it is necessary to use subsequently two dispersing elements, for pre-crushing and fine crushing. The plug-in connectors facilitate the exchange of the dispersing elements.

For dispersing instrument	Dispersing element Shaft / Agitator shaft	With seal or bearing type*	Generator (G) or element (W)**	With outer diameter (mm)	Degree of fineness achieved***
T 8	S 8	N	–	5 / 8	G
T 18	S 18	N	–	10 / 19	G
T 25	S 25	N / KR / KV / NK	–	8 / 10 / 18 / 19 / 25	G / F
T 50	S / R 50	N / KV / KR / KG - HH	G / W	45 / 65 / 80	G / M / F
T 65	S 65	KG - HH	G	65	G / M / F

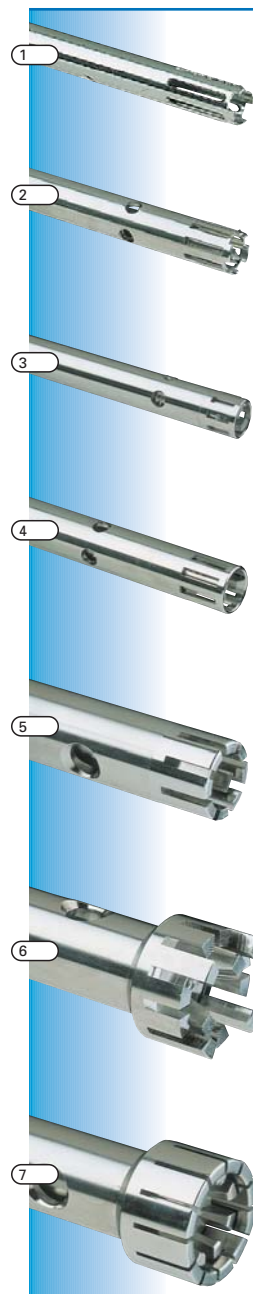
* N = N = PTFE bearing, KR = Ball bearing with Viton®- seal, KV = Ball bearing with vacuum-tight sliding-ring seal with silicon carbide seal rings, NK = PTFE bearing with additional ball bearing without seal, KG - HH = Ball bearing with sliding-ring seals of hard metal allow with FFPM seal rings

** G = proved configuration, W = special element

*** G = coarse, M = medium, F = fine



IKA® Particle size reduction

Dispersing elements (T 8, T 18 basic, T 25 basic)



Dispersing element	S 8 N - 5 G	S 8 N - 8 G	S 18 N - 10 G	S 18 N - 19 G
Fig.				
Ident. No.	2969000	2560000	L004639	L004640

Suitable for dispersing instrument	T 8	T 8	T 18 basic	T 18 basic
Technical data				
Working range	0,5 - 5 ml	1 - 50 ml	1 - 100 ml	10 - 1.500 ml
Stator diameter	5 mm	8 mm	10 mm	19 mm
Rotor diameter	3,8 mm	6,1 mm	7,5 mm	12,7 mm
Gap between rotor and stator	0,15 mm	0,275 mm	0,35 mm	0,4 mm
Circumferential speed	5,0 m/s	8,0 m/s	9,4 m/s	15,9 m/s
Min. / max. immersion depth	25 / 85 mm	25 / 110 mm	25 / 70 mm	35 / 170 mm
Shaft length	120 mm	140 mm	108 mm	204 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L
pH range	2 - 13	2 - 13	2 - 13	2 - 13
Suitable for solvents	yes	yes	yes	yes
Suitable for abrasive substances	yes	yes	yes	yes
Max. temperature	180 °C	180 °C	180 °C	180 °C
Sterilization methods	all methods	all methods	all methods	all methods
Min. vacuum	-	-	-	-
Max. pressure	-	-	-	-
Ultimate fineness, suspensions	5 - 25 µm	5 - 25 µm	10 - 50 µm	10 - 50 µm
Ultimate fineness, emulsions	1 - 10 µm	1 - 10 µm	1 - 10 µm	1 - 10 µm

Dispersing element	S 25 NK - 19 G	S 25 N - 25 G	S 25 KR - 25 G
Fig.			
Ident. No.	2494700	1713300	1713400

Suitable for dispersing instrument	T 25 basic	T 25 basic	T 25 basic
Technical data			
Working range	25 - 1.500 ml	50 - 2.000 ml	50 - 2.000 ml
Stator diameter	19 mm	25 mm	25 mm
Rotor diameter	12,7 mm	17 mm	17 mm
Gap between rotor and stator	0,3 mm	0,5 mm	0,5 mm
Circumferential speed	15,9 m/s	21,4 m/s	21,4 m/s
Min. / max. immersion depth	40 / 165 mm	40 / 165 mm	40 / 185 mm
Shaft length	194 mm	194 mm	194 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L	Viton, AISI 316L
pH range	2 - 13	2 - 13	2 - 13
Suitable for solvents	yes	yes	no
Suitable for abrasive substances	yes	yes	no
Max. temperature	120 °C	180 °C	80 °C
Sterilization methods	wet chemical	all methods	wet chemical
Min. vacuum	-	-	50 mbar
Max. pressure	-	-	-
Ultimate fineness, suspensions	10 - 50 µm	15 - 50 µm	15 - 50 µm
Ultimate fineness, emulsions	1 - 10 µm	1 - 10 µm	1 - 10 µm

Additional rotor for dispersing elements S 25 N - 18 G, S 25 KR - 18 G, S 25 KV - 18 G

Dispersing element	Slab rotor SW 18
Fig.	
Ident. No.	8011900

Technical data	
Rotor diameter	12,8 mm
Gap between rotor and stator	0,35 mm
Circumferential speed	16,1 m/s
Materials in contact with medium	stainl. steel AISI 316L
Applications	viscous, fibrous tissue



IKA® Particle size reduction

Dispersing elements (T 25 basic)

S 25 N - 8 G (3) 1024200	S 25 N - 10 G (4) 0594000	S 25 N - 10 G - VS 1899000	S 25 N - 18 G 0593400	S 25 KR - 18 G 0560300	S 25 KV - 18 G 2348000
T 25 basic	T 25 basic	T 25 basic	T 25 basic	T 25 basic	T 25 basic
1 - 50 ml	1 - 100 ml	1 - 100 ml	10 - 1.500 ml	10 - 1.500 ml	10 - 1.500 ml
8 mm	10 mm	10 mm	18 mm	18 mm	18 mm
6,1 mm	7,5 mm	7,5 mm	12,7 mm	12,7 mm	12,7 mm
0,25 mm	0,35 mm	0,35 mm	0,3 mm	0,3 mm	0,3 mm
7,7 m/s	9,4 m/s	9,4 m/s	15,9 m/s	15,9 m/s	15,9 m/s
27/85 mm	22/85 mm	22/85 mm	40/165 mm	40/185 mm	40/225 mm
108 mm	105 mm	105 mm	194 mm	194 mm	270 mm
PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L	Viton, AISI 316L	FFPM / SIC, AISI 316L
2 - 13	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13
yes	yes	yes	yes	no	yes
yes	yes	yes	yes	no	no
180 °C	180 °C	180 °C	180 °C	80 °C	220 °C
all methods	all methods	all methods	all methods	wet chemical	wet chemical
-	-	-	-	50 mbar	1 mbar
-	-	-	-	-	6 bar
10 - 50 µm	10 - 50 µm	10 - 50 µm	10 - 50 µm	10 - 50 µm	10 - 50 µm
1 - 10 µm	1 - 10 µm	1 - 10 µm	1 - 10 µm	1 - 10 µm	1 - 10 µm

S 25 KV - 25 G 2466900	S 25 N - 25 F (7) 1713800	S 25 KR - 25 F 1713900	S 25 KV - 25 F 2404000	S 25 KV - 25 G - IL 2563000	S 25 KV - 25 F - IL 2830200
T 25 basic	T 25 basic	T 25 basic	T 25 basic	T 25 basic	T 25 basic
50 - 2.000 ml	100 - 2.000 ml	100 - 2.000 ml	100 - 2.000 ml	inline	inline
25 mm	25 mm	25 mm	25 mm	25 mm	25 mm
17 mm	18 mm	18 mm	18 mm	17 mm	18 mm
0,5 mm	0,5 mm	0,5 mm	0,5 mm	0,5 mm	0,5 mm
21,4 m/s	22,6 m/s	22,6 m/s	22,6 m/s	21,4 m/s	22,6 m/s
40/225 mm	40/165 mm	40/185 mm	40/225 mm	40/85 mm	40/85 mm
270 mm	194 mm	194 mm	270 mm	110 mm	110 mm
FFPM / SIC, AISI 316L	PTFE, AISI 316L	Viton, AISI 316L	FFPM / SIC, AISI 316L	FFPM / SIC, AISI 316L	FFPM / SIC, AISI 316L
2 - 13	2 - 13	2 - 13	2 - 13	2 - 13	2 - 13
yes	yes	no	yes	yes	yes
no	yes	no	no	no	no
220 °C	180 °C	80 °C	220 °C	220 °C	220 °C
wet chemical	all methods	wet chemical	wet chemical	wet chemical	wet chemical
1 mbar	-	50 mbar	1 mbar	1 mbar	1 mbar
6 bar	-	-	6 bar	6 bar	6 bar
15 - 50 µm	5 - 25 µm	5 - 25 µm	5 - 25 µm	15 - 50 µm	5 - 25 µm
1 - 10 µm	1 - 5 µm	1 - 5 µm	1 - 5 µm	1 - 10 µm	1 - 5 µm

SV NS 29 Screw cap

For dispersing operations (use seal types KR and KV) in ground section apparatus and for operations under hermetically sealed conditions or in a protective gas atmosphere (for dispersion elements used with the T 25 basic).




Seal diameter	17 mm
Material	borosilicate glass, PTFE

Ident. No.
0767700

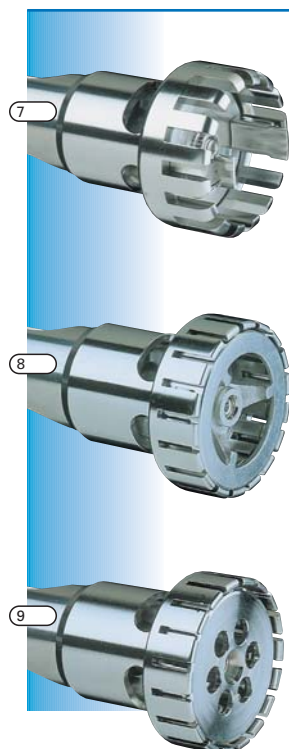
IKA® Particle size reduction





Dispersing elements (T 10 basic)



Dispersing element	S 10 N - 5 G	S 10 N - 8 G	S 10 N - 10 G
Fig. 			
Ident. No.	3304000	3305500	3370100
Suitable for dispersing instrument	T 10 basic	T 10 basic	T 10 basic
Technical data			
Working range	0,5 - 10 ml	1 - 50 ml	1 - 100 ml
Stator diameter	5 mm	8 mm	10 mm
Rotor diameter	3,8 mm	6,1 mm	7,6 mm
Gap between rotor and stator	0,1 mm	0,25 mm	0,2 mm
Circumferential speed (30.000 rpm)	6 m/s	9,6 m/s	11,9 m/s
Min. / max. immersion depth	20 / 75 mm	20 / 95 mm	20 / 100 mm
Shaft length	92 mm	115 mm	115 mm
Materials in contact with medium	PTFE, AISI 316L	PTFE, AISI 316L	PTFE, AISI 316L
pH range	2 - 13	2 - 13	2 - 13
Suitable for solvents	yes	yes	yes
Suitable for abrasive substances	yes	yes	yes
Max. temperature	180 °C	180 °C	180 °C
Sterilization methods	all methods	all methods	all methods
Min. vacuum	-	-	-
Max. pressure	-	-	-
Ultimate fineness, suspensions	5 - 25 µm	5 - 25 µm	5 - 25 µm
Ultimate fineness, emulsions	1 - 10 µm	1 - 10 µm	1 - 10 µm

Dispersing elements (T 50 basic)

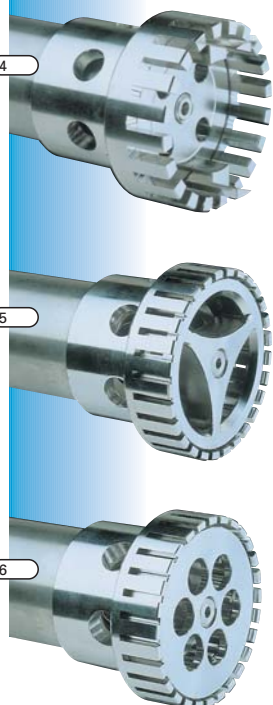


Dispersing element	S 50 N - G 45 G	S 50 KR - G 45 G	S 50 N - G 45 M	S 50 KR - G 45 M
Fig. 				
Ident. No.	8003000	8003100	8003300	8003400
Suitable for dispersing instrument	T 50 basic	T 50 basic	T 50 basic	T 50 basic
Technical data				
Working range	0,5 - 20 l	0,5 - 20 l	0,5 - 15 l	0,5 - 15 l
Stator diameter	45 mm	45 mm	45 mm	45 mm
Rotor diameter	36 mm	36 mm	40,5 mm	40,5 mm
Circumferential speed	18,8 m/s	18,8 m/s	21,2 m/s	21,2 m/s
Min. / max. immersion depth	70 / 250 mm	70 / 260 mm	70 / 250 mm	70 / 260 mm
Shaft length	300 mm	300 mm	290 mm	290 mm
Materials in contact with medium	PTFE, AISI 316L	Viton, AISI 316L	PTFE, AISI 316L	Viton, AISI 316L
pH range	2 - 13	2 - 13	2 - 13	2 - 13
Suitable for solvents	yes	no	yes	no
Suitable for abrasive substances	yes	no	yes	no
Max. temperature	180 °C	80 °C	180 °C	80 °C
Sterilization methods	all methods	wet chemical	all methods	wet chemical
Min. vacuum	-	100 mbar	-	100 mbar
Max. pressure	-	-	-	-
Ultimate fineness, suspensions	40 - 100 µm	40 - 100 µm	25 - 50 µm	25 - 50 µm
Ultimate fineness, emulsions	10 - 30 µm	10 - 30 µm	5 - 20 µm	5 - 20 µm

S 50 N - Special length shafts also available in 430 mm (order label S 50 N 1)

IKA® Particle size reduction

Dispersing elements (T 65 D)



Dispersing element

Fig.

Ident. No.

S 65 KG - HH - G 65 G

4

8005500

S 65 KG - HH - G 65 M

5

8005700

S 65 KG - HH - G 65 F

6

8005900

Suitable for dispersing instrument

T 65 D

T 65 D

T 65 D

Technical data

Working range	2 - 50 l	2 - 40 l	2 - 30 l
Stator diameter	65 mm	65 mm	65 mm
Rotor diameter	58 mm	58 mm	58 mm
Circumferential speed	21,9 m/s	21,9 m/s	21,9 m/s
Min. / max. immersion depth	90 / 450 mm	80 / 450 mm	80 / 450 mm
Shaft length	520 mm	510 mm	500 mm
Materials in contact with medium	FFPM / SIC, AISI 316L	FFPM / SIC, AISI 316L	FFPM / SIC, AISI 316L
pH range	2 - 13	2 - 13	2 - 13
Suitable for solvents	yes	yes	yes
Suitable for abrasive substances	no	no	no
Max. temperature	180 °C	180 °C	180 °C
Sterilization methods	wet chemical	wet chemical	wet chemical
Min. vacuum	1 mbar	1 mbar	1 mbar
Max. pressure	6 bar	6 bar	6 bar
Ultimate fineness, suspensions	25 - 75 µm	20 - 50 µm	5 - 20 µm
Ultimate fineness, emulsions	5 - 25 µm	5 - 15 µm	1 - 10 µm

S 50 N - G 45 F

9

8003900

S 50 KR - G 45 F

8004000

S 50 KV - G 45 G - IL

8015800

S 50 KG - HH - G 45 G

8003200

S 50 KG - HH - G 45 M

8003500

S 50 KG - HH - G 45 F

8004100

T 50 basic

T 50 basic

T 50 basic

T 50 basic

T 50 basic

T 50 basic

0,25 - 10 l

0,25 - 10 l

inline

0,5 - 20 l

0,5 - 15 l

0,25 - 10 l

45 mm

45 mm

45 mm

45 mm

45 mm

45 mm

40 mm

40 mm

36 mm

36 mm

40,5 mm

40 mm

20,9 m/s

20,9 m/s

18,8 m/s

18,8 m/s

21,2 m/s

20,9 m/s

70 / 250 mm

70 / 260 mm

70 mm

70 / 260 mm

70 / 250 mm

70 / 250 mm

290 mm

290 mm

105 mm

300 mm

300 mm

290 cm

PTFE, AISI 316L

Viton, AISI 316L

FFPM / SIC, AISI 316L

FFPM / SIC, AISI 316L

FFPM / SIC, AISI 316L

FFPM / SIC, AISI 316L

2 - 13

2 - 13

2 - 13

2 - 13

2 - 13

2 - 13

yes

no

yes

yes

yes

yes

yes

no

no

no

no

no

180 °C

80 °C

220 °C

180 °C

180 °C

180 °C

all methods

wet chemical

wet chemical

wet chemical

wet chemical

wet chemical

-

100 mbar

1 mbar

1 mbar

1 mbar

1 mbar

-

-

6 bar

6 bar

6 bar

6 bar

10 - 30 µm

10 - 30 µm

40 - 100 µm

40 - 100 µm

25 - 50 µm

10 - 30 µm

1 - 10 µm

1 - 10 µm

10 - 30 µm

10 - 30 µm

5 - 20 µm

1 - 10 µm

IKA® Particle size reduction

Dispersing elements

Plastic dispersing elements for T 10 basic:

Dispersing element

Fig.

Ident. No.

Packing unit (pcs.)

S10 D - 7G - KS - 65

1

3433212

3433225

12

25

S10 D - 7G - KS - 110

2

3433312

3433325

12

25

Suitable for dispersing instrument

T 10 basic

T 10 basic

Technical data

Working range

1 - 20 ml

1 - 40 ml

Stator diameter

7 mm

7 mm

Rotor diameter

4,8 mm

4,8 mm

Circumferential speed (30.000 rpm)

7,5 m/s

7,5 m/s

Min. / max. immersion depth

20 / 45 mm

20 / 90 mm

Shaft length

65 mm

110 mm

Materials in contact with medium

Polycarbonate (PC),

Polycarbonate (PC),

Polysulfon (PSU)

Polysulfon (PSU)

Max. temperature

100 °C

100 °C

Sterilization methods

yes, autoclavable

yes, autoclavable

Plastic materials used approved by FDA.

Plastic dispersing elements for T 18 basic:

Dispersing element

Fig.

Ident. No.

Packing unit (pcs.)

S18 D - 10 G - KS

3

3452000

3452400

5*

10*

S18 D - 14 G - KS

4

3451900

3452300

5*

10*

Suitable for dispersing instrument

T 18 basic

T 18 basic

Technical data

Working range

10 - 100 ml

10 - 500 ml

Stator diameter

10 mm

14 mm

Rotor diameter

6,75 mm

9,5 mm

Circumferential speed (30.000 rpm)

8,5 m/s

12 m/s

Min. / max. immersion depth

15 / 85 mm

15 / 85 mm

Shaft length

150 mm

150 mm

Materials in contact with medium

Polycarbonate (PC),

Polycarbonate (PC),

Polyetheretherketon (PEEK)

Polyetheretherketon (PEEK)

Max. temperature

100 °C

100 °C

Sterilization methods

yes, autoclavable

yes, autoclavable

* incl. 1 Disposable tube

Plastic materials used approved by FDA.



1

2

3

4

5

6

IKA® Particle size reduction

Dispersing elements



Plastic dispersing elements for T 25 basic:

Dispersing element

Fig.

Ident. No.

Packing unit (pcs.)

S 25 D - 10 G - KS

Fig. 5

3451800

5*

3452200

10*

S 25 D - 14 G - KS

Fig. 6

3451700

5*

3452100

10*

Suitable for dispersing instrument

Technical data

Working range

Stator diameter

Rotor diameter

Circumferential speed (30.000 rpm)

Min. / max. immersion depth

Shaft length

Materials in contact with medium

Max. temperature

Sterilization methods

T 25 basic

T 25 basic

10 - 100 ml

10 - 500 ml

10 mm

14 mm

6,75 mm

9,5 mm

8,5 m/s

12 m/s

15 / 85 mm

15 / 85 mm

150 mm

150 mm

Polycarbonate (PC),

Polycarbonate (PC),

Polyetheretherketon (PEEK)

Polyetheretherketon (PEEK)

100 °C

100 °C

yes, autoclavable

yes, autoclavable

* incl. 1 Disposable tube

Plastic materials used approved by FDA.

Plastic dispersing elements are ideal for those applications where absolutely no cross-contamination is permitted. They are disposable and can be thrown away after a single use. The element is disposable and designed for one-way use. However, it can be re-used several times in applications where this is permitted. If you decide to re-use the element, make sure that you follow the cleaning instructions carefully. Example use: homogenizing tissue samples.

Nomenclature for S 25 D - 10 G - KS

S 25: shaft for drive T 25

D: without seal

10 G: diameter stator 10 mm, coarse

KS: plastic

Disposable tube S 50 18/25-ET50

50 ml for attaching onto plastic tools from S 18 D and S 25 D series. Allows dispersing in a closed system (splash guard).

Material

PP

Ident. No.

3452500

IKA® Particle size reduction

Special dispersing elements (T 50 basic)



R 50 "high speed" stirring shaft

With the stirring shaft R 50, the T 50 basic is quickly converted into a high speed stirrer. 700 W and 10.000 rpm are provided for rapid mixing, dissolving, and disagglomerating pigment agglomerates. The conical shaft is supported by means of ball bearings, the mixing elements have a screw connection. For operational safety a protective cage is fitted around the mixing element.

Immersion depth	180 mm
Working range	0,25 - 30 l
Max. circumferential speed	15,7 - 23 m/s
Max. permissible rotor diameter	50 mm
Material	stainl. steel (AISI 316L)

Accessories (Page):

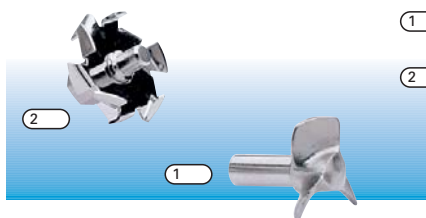
Dispersing elements (68): R 1405 , R 1402

Included with delivery (Page):

Dissolver R 1402 (68)

Ident. No.

1689300



1 R 1405 Propeller

2 R 1402 Dissolver

Working range	0,25 - 10 l
Rotor diameter	45 mm
Working range	1 - 30 l
Rotor diameter	42 mm

Ident. No.

1289800 R 1405

1243300 R 1402



S 50... - W 80 SMK Jet mixer head

For shortening mixing and dissolving times. The vertical flow and the high circumferential speed up to 10.000 rpm ensure intensive mixing. The head is used for adding gases or liquids, for lump-free suspension of difficult to dissolve powders or for dissolving sedimented, already hardened substances.

Min. / max. immersion depth	140 / 350 mm
Working range	1 - 50 l
Generator diameter	80 mm
Available seals	S 50 N S 50 KR

Ident. No.

8006300 S 50 N - W 80 SMK

8006400 S 50 KR - W 80 SMK



S 50 N - W 65 SK Cutting head

To crush large pieces (up to 50 mm) of fibrous materials, such as vegetation, vegetables and fruit.

Min. / max. immersion depth	80 / 350 mm
Working range	1 - 10 l
Generator diameter	65 mm
Available seal	S 50 N

Ident. No.

8005100

IKA® Particle size reduction

Dispersers (inline operation)

UTL 25 basic Inline ULTRA-TURRAX®

For circulation or flow-through processings in the laboratory.

- Simple, compact and sturdy modular design
- Sterilizable, autoclave-compatible
- Table-top or stand-supported device, low space requirement
- Easy disassembly
- Large delivery capacity of 4,4 to 11,6 l/min with open outlet (the mounting of a valve can reduce the flow rate)
- For air-free, sterile, and inline suspension, emulsifying and desagglomeration
- For vacuum or pressurized operation (up to 6 bar)
- If the DK 25.11 is used, air induction is also prevented in batch operation
- Not self-priming
- A pump can be integrated between intake nozzle and vessel. As a result, viscous fluids can be processed
- **Not suitable for continuous operation or cyclical continuous operation**



Flow rate (H ₂ O)	11,6 l/min
Speed range	6.500 - 24.000 rpm
Materials in contact with medium	stainl. steel (AISI 316L), FFPM
Max. operating temperature	180 °C
Dimensions (W x D x H)	450 x 100 x 120 mm
Weight	3,8 kg
Permissible ambient temperature	5 - 40 °C
Permissible humidity	80 %
Protection class acc. to DIN EN 60529	IP 20
Chamber volume	26 ml
Min. vacuum	1 mbar
Max. pressure	6 bar

Accessories (Page):

Dispersing element S 25 KV - 25 F - IL (63)

Included with delivery (Page):

T 25 basic (59), AD 25 Mounting (70),
DK 25.11 Flow chamber (70),
Dispersing element S 25 KV - 25 G - IL (63)

Ident. No.	Ident. No.
8014400	8014401
230 V 50/60 Hz	115 V 50/60 Hz

UTL 50 basic Inline ULTRA-TURRAX®

For circulation or flow-through processings in the laboratory or pilot plant stations.

- Stand-supported device, low space requirement
- Large flow rate of 24 l/min with open outlet (the mounting of a valve reduces the delivery capacity)
- For vacuum or pressurized operation to 6 bar
- If the DK 50.11 is used, air induction is also prevented in batch operation
- **Not suitable for continuous operation or cyclical continuous operation**

Additional features as UTL 25 basic inline.



Flow rate (H ₂ O)	24 l/min
Speed range	4.000 - 10.000 rpm
Materials in contact with medium	stainl. steel (AISI 316L), FFPM
Max. operating temperature	180 °C
Dimensions (W x D x H)	130 x 150 x 500 mm
Weight	6,1 kg
Permissible ambient temperature	5 - 40 °C
Permissible Humidity	80 %
Protection class acc. to DIN EN 60529	IP 21
Chamber volume	94 ml
Min. vacuum	1 mbar
Max. pressure	6 bar

Accessories (Page):

R 2723 Telescopic stand (106),
R 271 Boss head clamp (108)

Included with delivery (Page):

T 50 basic (59),
DK 50.11 Flow chamber (70),
Dispersing element S 50 KV - G 45 G - IL (65)

Ident. No.	Ident. No.
8015900	8015901
230 V 50/60 Hz	115 V 50/60 Hz

IKA® Particle size reduction

Disperser accessories



DK 25.11 Flow chamber

For S 25 KV - 25 ... - IL dispersing elements. Allows inline operation mode, see UTL 25 basic, page 69.

Batch operation:

DK 25.11 is mounted around the dispersing element. The DK 25.11 must be at a lower elevation than the surface of the liquid during operation. With this operating mode, no air is drawn in as a result of turbulence in the vessel.

Chamber volume	26 ml
Vacuum	1 mbar
Pressure	6 bar

Ident. No.
2518000



AD 25

Mounting support for DK 25.11

Ident. No.
2562500



DK 50.11 Flow chamber

For S 50 KV - G 45 ... - IL dispersing elements. Allows operation in inline mode, see UTL 50 basic, page 69.

If used in batch mode: DK 50.11 is mounted around the dispersing element. Additional features as DK 25.11.

Chamber volume	94 ml
Vacuum	1 mbar
Pressure	6 bar

Ident. No.
2810000



T 8.10 Dispersion station

Allows the T 8 to be used as a stand-supported device.

- Used to hold dispersing elements
- Sterilizable, removable working surface
- Serves as a protective cover for the power pack

Stands for T 25 basic and T 50 basic

See mechanical accessories, page 106.

Ident. No.
2602500

IKA® Particle size reduction

Dispersers (LABOR-PILOT)



LABOR-PILOT 2000/4

New, multi-functional table-top dispersing system with the possibility of upscaling to production size. No dispersing laboratory should be without this continuous pilot system with a flow capacity of approx. 300 l/h.

Special features:

- Multiple use for mixing, dispersing or wet milling
- Modular design – the basic unit can be converted easily by using various mixing heads to reach circumferential speeds up to 40 m/s
- CIP/SIP (clean-in-place / sterilization-in-place) capable
- All parts in contact with the medium are made of stainless steel AISI 316 L
- The control system allows a product-specific adaptation to rheological characteristics
- The ultra-modern control unit LABOR-PILOT-controller permits an easy adjustment of process parameters and their evaluation

You can find our complete range of machines and plants on the website of our division **IKA® Process Technology** under www.ikaprocess.com.



LABOR-PILOT 2000/4

Single stage dispersing machine, consisting of:

- Three-phase motor with on/off-switch
- Belt drive
- Single stage dispersing chamber UTL
- Generator 4M (medium)
- PTFE-shaft sealing ring

Can be extended to a high-speed dispersing machine by means of the LABOR-PILOT-Controller.

Additional generators can be selected from the list of accessories (page 74).

Power	1,5 kW
Output speed	7.900 rpm (3.160 - 13.750)
Flow capacity (H ₂ O)	approx. 300 - 700 l/h
Circumferential speed	23,5 (9,4 - 41) m/s
Dimensions (W x D x H)	450 x 250 x 350 mm
Values in parentheses for operation with LABOR-PILOT-Controller (see below).	

Ident. No.	Ident. No.
T056762 3x220-240 V 50/60 Hz	S097950 for FC-operation
T055396 3x380-420 V 50/60 Hz	



LABOR-PILOT Controller

Housing complete with frequency converter, speed indicator, temperature indicator, timer and adapter DN 15 with temperature sensor PT 100 at the product outlet.

Power	1,5 kW
Frequency range	20 - 87 Hz
Dimensions (W x D x H)	220 x 340 x 380 mm

Ident. No.	Ident. No.
T054916 3x220-240 V 50/60 Hz	T055171 3x380-420 V 50/60 Hz

IKA® Particle size reduction

Dispersers (PROCESS-PILOT)



PROCESS-PILOT 2000/4

The most powerful package for development and small scale production

The PROCESS-PILOT is equipped with a double-acting mechanical seal complete with the necessary pressure locking system.

This allows, in addition to the other modules, the use of the CMS module for easy and dust-free incorporation of powders into liquids in batch operation.

The advantages of the PROCESS-PILOT:

- Operates under pressure/vacuum
- Works at elevated temperatures
- Low maintenance mechanical seal
- Suitable for dry-running
- Available in Ex-protected design acc. to 94/9/EG (ATEX 95)

You can find our complete range of machines and plants on the website of our division **IKA® Process Technology** under **www.ikaprocess.com**.



PROCESS-PILOT 2000/4

Single stage dispersing machine, consisting of:

- Three-phase motor
- Belt drive
- Single stage dispersing chamber UTL
- Double acting mechanical seal, material combination Q1Q1VMG-BQ1VMG
- Generator 4M (medium)
- Inlet flange DN 25, DIN 11851
- Outlet flange DN 15, DIN 11851
- All wetted parts of stainl. steel AISI 316L
- O-rings made of FPM

Additional generators can be selected from the list of accessories (page 74).

Power	2,2 kW
Output speed	3.160 - 13.750 min ⁻¹
Flow capacity (H ₂ O) (depending on type of generator)	approx. 300 - 700 l/h
Circumferential speed	9,4 - 41 m/s
Dimensions (W x D x H) (incl. pressure locking vessel)	450 x 250 x 930 mm

Ident. No.

T058102 for FC-operation



PROCESS-PILOT-Controller

The PROCESS-PILOT is controlled via a PROCESS-PILOT-Controller, complete with:

- Frequency converter
- Speed indicator
- Temperature indicator
- Timer
- Adapter DN 15 with temperature sensor PT 100 at the product outlet

Power	4 kW
Frequency range	20 - 87 Hz
Dimensions (W x D x H)	220 x 340 x 450 mm

Ident. No.

T058761 3x380-420 V 50/60 Hz

Modules (PROCESS-PILOT)



Module CMS

- Extension for incorporation of powders into liquids, consisting of:
- Housing parts for powder and liquid inlet
 - Rotors
 - Adapter for housing and shaft
 - Longer screws
 - O-rings made of FPM
 - All parts in contact with the medium made of stainless steel (AISI 316L)

Material module	Stainless steel (AISI 316L) / FPM
Accessories:	
Sealing set O-rings standard made of FPM	
Sealing set O-rings made of FFPM / FEP (in contact with medium / double jacket)	
Sealing between rotor and suction pipe, PTFE	
Mechanical seal, material combination Q1Q1VMG-BQ1VMG	

Ident. No.	
T061272	Module CMS
U069926	O-rings standard
T060508	O-rings FFPM / FEP
T056271	Sealing
T060859	Mechanical seal

IKA® Particle size reduction

Basic unit (LABOR-PILOT / PROCESS-PILOT)



Accessories for basic unit with module UTL:

Generator 2P	with pump blades	coarse
Generator 2G		coarse
Generator 4M		medium
Generator 6F		fine
Generator 8SF		superfine
Sealing set O-rings standard	Material	FPM
Sealing set O-rings FFPM / FEP	Material	FFPM / FEP
	in contact with medium / double jacket	
for LABOR-PILOT:		
Shaft sealing ring	Material	PTFE-compound
for PROCESS-PILOT:		
Mechanical seal	Material combination	Q1Q1VMG-BQ1VMG
Pressure locking system 1,8 l		

Ident. No. LABOR-PILOT		Ident. No. PROCESS-PILOT
T055002	Generator 2P	T055002
T055001	Generator 2G	T055001
T054949	Generator 4M	T054949
T055000	Generator 6F	T055000
U071940	Generator 8SF	U071940
T055007	O-rings standard	T061954
T056680	O-rings FFPM / FEP	T061024
T054617	Shaft sealing ring	T054617
T060859	Mechanical seal	T060859
T058757	Pressure locking system	T058757

Modules (LABOR-PILOT / PROCESS-PILOT)

Module DISPAX-REACTOR®

Extension for a three-stage dispersing machine, consisting of:

- Longer screws
- O-rings made of FPM
- 2 additional generators, 2G (coarse) and 6F (fine)

Can be extended to the high-speed dispersing machine DRS by means of the LABOR-PILOT Controller.

Additional generators can be selected from the accessories of the basic unit with UTL.

Material module	stainl. steel (AISI 316L) / FPM
Accessories:	
Sealing set O-rings standard of FPM	
Sealing set O-rings of FFPM / FEP	
(in contact with medium / double jacket)	
LABOR-PILOT:	
Shaft sealing ring made of PTFE-compound	
PROCESS-PILOT:	
Mechanical seal,	
material combination Q1Q1VMG-BQ1VMG	

Ident. No. LABOR-PILOT		Ident. No. PROCESS-PILOT
T055013	Module DISPAX-REACTOR®	T058133
T056687	O-rings standard	T061955
T056688	O-rings FFPM / FEP	T058770
T054617	Shaft sealing ring	T054617
T060859	Mechanical seal	T060859



Modules (LABOR-PILOT / PROCESS-PILOT)

Module MHD

Extension for incorporation and dispersion of powdery materials into liquids, consisting of:

- Inlet flange
- Mixing chamber
- Injection unit
- Feeding screw
- Mixing blades
- Longer screws
- O-rings made of FPM
- Generator 2P (coarse with pump blades)

The generators 2P, 2G and 4M can be selected from the accessories of the basic unit with UTL (page 74).

Material module stainl. steel (AISI 316L) / FPM

Accessories:

Sealing set O-rings standard made of FPM

Sealing set O-rings made of FFPM / FEP
(in contact with medium / double jacket)

LABOR-PILOT:

Shaft sealing ring made of PTFE-compound

PROCESS-PILOT

Mechanical seal,

material combination Q1Q1VMG-BQ1VMG

Dosing system available on request.

Ident. No. LABOR-PILOT Ident. No. PROCESS-PILOT

T055142 Module MHD **T058148**

T056689 O-rings standard **T061987**

T056691 O-rings FFPM / FEP **T061991**

T054617 Shaft sealing ring **T054617**

T060859 Mechanical seal **T060859**

Module colloid mill MK

Extension for getting a colloid mill, consisting of:

- Fixed inlet flange
- Housing with adjustment ring
- Spiral geared milling tool, stainless steel (AISI 316L)
- Longer screws
- O-rings made of FPM

Material module stainl. steel (AISI 316L) / FPM

Accessories:

Sealing set O-rings standard made of FPM

Sealing set O-rings made of FFPM / FEP

(in contact with medium / double jacket)
Spiral geared milling tool, stainless steel (AISI 316L)

LABOR-PILOT:

Shaft sealing ring made of PTFE-compound

PROCESS-PILOT

Mechanical seal,

material combination Q1Q1VMG-BQ1VMG

Ident. No. LABOR-PILOT Ident. No. PROCESS-PILOT

T054917 Module MK **T058583**

T056693 O-rings standard **U064990**

T056694 O-rings FFPM / FEP **T061992**

T056698 Spiral geared milling tool **T056698**

T054617 Shaft sealing ring **T054617**

T060859 Mechanical seal **T060859**

Module cone mill MKO

Extension for getting a colloid mill, consisting of:

- Fixed inlet flange
- Housing with adjustment ring
- Milling tool, WCCO-coated (tungsten carbide-cobalt)
- Longer screws
- O-rings made of FPM

All parts in contact with the medium are made of stainless steel (AISI 316L).

Material module stainl. steel (AISI 316L) / FPM

Accessories:

Sealing set O-rings standard made of FPM

Sealing set O-rings made of FFPM / FEP

(in contact with medium / double jacket)
Milling tool WCCO-coated

LABOR-PILOT:

Shaft sealing ring made of PTFE-compound

PROCESS-PILOT:

Mechanical seal,

material combination Q1Q1VMG-BQ1VMG

Ident. No. LABOR-PILOT Ident. No. PROCESS-PILOT

T061069 Module MKO **T061674**

T061081 O-rings standard **T061990**

T061084 O-rings FFPM / FEP **T061994**

T061389 Spiral geared milling tool **T061389**

T054617 Shaft sealing ring **T054617**

T060859 Mechanical seal **T060859**

IKA® Particle size reduction

LABOR-PILOT (accessories)



Accessories for circulating operation

Funnel, inside electro-polished, double-jacketed for heating or cooling.

Also possible for inlet side

Two-way ball valve

Recirculation in the funnel

Telescopic stand column
RW 28 basic (page 34)
Anchor stirrer
PTFE-wipers for anchor stirrer
Boss head clamp

Outlet side

3-way stop cock KM/-G - G
Circulation bend with intermediate piece
FPM sealing set for circulation bend
Blind nut DN 15
Hose nozzle DN 15 K



Capacity	8 l
Material	stainl. steel (AISI 304)

Ident. No.	
T056458	Funnel
T056468	Two-way ball valve
T055330	Telescopic stand
2760000	RW 28 basic, page 34
T058564	Anchor stirrer
T058714	PTFE-wipers for anchor stirrer
2664000	R 271 Boss head clamp, page 108
T056482	3-Way stop cock
T057796	Circulation bend with intermediate piece
T056730	Sealing set for circulation bend
T056484	Blind nut DN 15
T056486	Hose nozzle DN 15

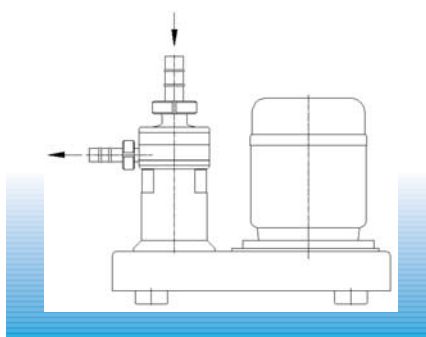
Accessories for continuous operation

Inlet side:

Hose nozzle K/M DN 25

Outlet side:

Hose nozzle DN 15 K



Internal diameter of hose	25 mm
---------------------------	-------

Internal diameter of hose	19 mm
---------------------------	-------

Ident. No.	
T057251	K/M DN 25
T056486	Hose nozzle DN 15 K

IKA® Particle size reduction

High pressure homogenizers (HPH 2000/4)



HPH 2000/4-SH5 High Pressure Homogenizer

The HPH 2000/4-SH5 consists of **one** high-pressure pump, driven by a special excen-ter. Due to a reduction of cross-section in the high-pressure or homogenizing valve a high pressure is built up in front of the valve by the constant flow from the pump. The pressure is then relieved in a very narrow, adjustable gap of the valve, which causes highly turbulent streams resulting in the requested size reduction and mixing effects. The homogenizing pressure can be infinitely manual adjusted and read-off from a manometer.

Drive power	1,5 kW
Max. homogenizing pressure	2.000 bar
Max. flow rate	3 l/h
Min. working quantity	200 ml
Dimensions (W x D x H)	450 x 350 x 250 mm
Weight	approx. 40 kg

Ident. No.

U068906



HPH 2000/4-DH5 High Pressure Homogenizer

The HPH 2000/4-DH5 consists of **two** high-pressure pumps, driven by a special excen-ter. Due to a reduction of cross-section in the high-pressure or homogenizing valve a high pressure is built up in front of the valve by the constant flow from the pump. The pressure is then relieved in a very narrow, adjustable gap of the valve, which causes highly turbulent streams resulting in the requested size reduction and mixing effects. The homogenizing pressure can be infinitely manual adjusted and read-off from a manometer.

Drive power	1,5 kW
Max. homogenizing pressure	2.000 bar
Max. flow rate	6 l/h
Min. working quantity	200 ml
Dimensions (W x D x H)	450 x 350 x 250 mm
Weight	approx. 40 kg

Ident. No.

U071735



HPH Controller

Housing complete with frequency convert-er, speed indicator, temperature indicator, timer and temperature sensor PT 100.

Power	1,5 kW
Frequency range	10 - 50 Hz
Dimensions (W x D x H)	220 x 340 x 380 mm

Ident. No.

U071728 3x400 V 50/60 Hz

IKA® Particle size reduction

Master-Plant series

IKA® Master-Plant

Thought-out in detail –
executed in IKA® quality



The Master Plant series is available in the sizes MP 10 – MP 4000



MP 10 – the ideal laboratory plant

Compact mixing and dispersing plant with

- Vessel that can be heated/cooled
- Spiral agitator that can be heated/cooled with movable scrapers
- Infinitely adjustable speed
- Funnel for feeding solid or liquid additives directly into the dispersing chamber without the necessity of creating vacuum in the vessel

Without the DBI it can also be supplied with any other stirrer.

The patented dispersing machine type **DBI 2000** is the heart of the plant and combines following functions in one unit: Pumping, suction of powders and liquids, mixing, dispersing and cleaning.

Already existing plants can also be improved by this innovative machine.

For further information please contact:
IKA®-WERKE GmbH & CO. KG, Division Process Technology or have a look to our website
www.ikaprocess.com.



IKA® Particle size reduction

Analytical mill



A 11 basic with accessories (page 80)



A 11 basic Analytical mill
Batch mill for 2 different grinding procedures:

Impact grinding of hard, brittle or non-elastic grinding materials with high-grade stainless steel beater. This beater can be used for a Mohs hardness up to 6 (incl. with delivery).

Cutting grinding for pulverizing soft, fibrous materials with a cutting blade (not incl. with delivery).

- Moist and gluey materials can be pulverized by adding water
- Grinding chamber made of Tefcel (ETFE, glass fiber-reinforced) with stainless steel inlet (AISI 316L), useful volume 80 ml (incl. with delivery). For embrittlement of grinding materials with liquid nitrogen in the grinding chamber
- Optionally, a 250 ml grinding chamber is available (page 80)

Motor rating	
input / output	300 / 160 W
Speed	28.000 rpm (fixed)
Useful volume	80 ml
Duty cycle	5 min / 10 min
ON / OFF	
Overload protection	yes
Circumferential speed	53 m/s
Max. granularity of task	10 mm
Dimensions (W x D x H)	85 x 85 x 240 mm
Weight	1,5 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 43

Accessories (Page):
A 11.1 Spare beater (80), A 11.2 Cutting blade (80), A 11.3 Beater (80), A 11.4 Grinding chamber (80), A 11.5 Spare grinding chamber (80), A 11.6 Double beater (80), A 11.7 Funnel (80)

Ident. No.	Ident. No.
2900000	2900001
230 V 50/60 Hz	115 V 50/60 Hz

IKA® Particle size reduction

Analytical mill accessories



A 11.1 Spare beater

For pulverizing substances with a Mohs hardness up to 6.

Material stainl. steel (AISI 420)

Included with the analytical mill A 11 basic.

Ident. No.

2904600



A 11.2 Cutting blade

For pulverizing soft, fibrous grinding materials.

Material stainl. steel (AISI 440B)

Not included with the analytical mill A 11 basic.

Ident. No.

2905200



A 11.3 Beater

For pulverizing substances with a Mohs hardness up to 9, coated with chromium carbide.

Material stainl. steel (AISI 440B)

Not included with the analytical mill A 11 basic.

Ident. No.

2983000



A 11.5 Spare grinding chamber

Made of Tefcel (ETFE, glass fiber-reinforced) with stainless steel inlet. Excellent resistance to chemicals and low temperatures (-200 °C).

Useful volume 80 ml

Material (inlet) stainl. steel (AISI 316L)

Not included with the analytical mill A 11 basic.

Ident. No.

2983100



A 11.4 Grinding chamber

Made of polycarbonate with stainless steel inlet. Not suitable for cooling with N₂, only applicable with double beater A 11.6.

Useful volume 250 ml

Material (inlet) stainl. steel (AISI 316L)

Not included with the analytical mill A 11 basic.

Ident. No.

2904100



A 11.6 Double beater

For use up to Mohs hardness 3. Only applicable with grinding chamber A 11.4.

Material titanium, surface-hardened

Not included with the analytical mill A 11 basic.

Ident. No.

3302900



A 11.7 Funnel

Prevents splashing by pouring in liquid nitrogen in the grinding chamber A 11.5.

Material jacket PTFE

Material sieve stainl. steel (AISI 316L)

Not included with the analytical mill A 11 basic.

Ident. No.

3048700

IKA® Particle size reduction

Universal mill



M 20 Universal mill

Batch mill suitable for dry grinding of hard and brittle substances.

- Double-walled grinding chamber can be cooled with water through two hose adapters
- Removable grinding chamber, easy to clean
- Two grinding chambers can be alternately operated using one drive
- M 21 blade incl. with delivery

Accessories (Page):

M 21 Spare cutter (81),
M 22 Hard metal cutter (81),
M 23 Star-shaped cutter (81),
M 20.1 Grinding chamber (81)

Motor rating	
input / output	440 / 225 W
Speed	20.000 rpm (fixed)
Circumferential speed	72 m/s
Overload protection	current limitation
Useful volume	250 ml
Material grinding chamber	stainl. steel (AISI 304)
Material cover	stainl. steel (AISI 304)
Max. granularity of task	max. 6 - 7 mm
Duty cycle ON / OFF	
(with cooling)	7 min / 10 min
Weight	6,6 kg
Dimensions (W x D x H)	170 x 170 x 350 mm
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
1603600	230 V 50/60 Hz 1603603
	115 V 50/60 Hz



M 21 Spare cutter, stainless steel

Suitable for crushing materials up to Mohs hardness 5.

Material	stainl. steel (1.4122)
Included with M 20.	

Ident. No.	
0328200	



M 22 Hard metal cutter

Made of tungsten carbide for hard materials up to Mohs hardness 9.

Material	tungsten carbide (91 WC 9 Co)
Not included with M 20.	

Ident. No.	
0521800	



M 23 Star-shaped cutter

Used to crush fibrous substances such as paper and vegetation, but also for plastics and material with a low specific weight.

Material	stainl. steel (AISI 304)
Not included with M 20.	

Ident. No.	
1443400	



M 20.1 Grinding chamber

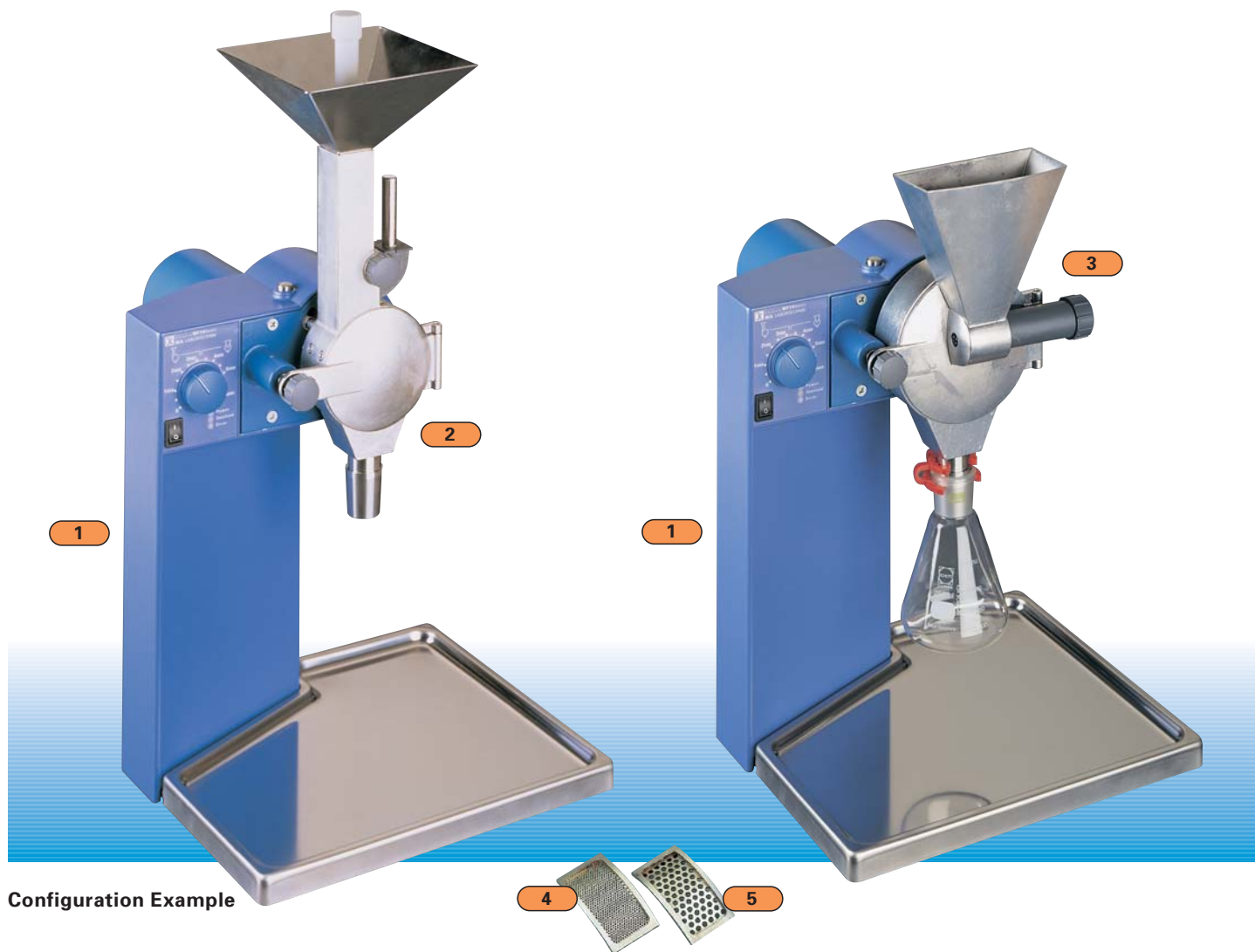
A second grinding chamber ensures effective processing. The grinding chambers can be placed on the drive alternately. One chamber is cleaned and filled while the other is being processed.

Cutters are not included with M 20.	
Accessories (Page):	
M 21 Spare cutter (81),	
M 22 Hard metal cutter (81),	
M 23 Star-shaped cutter (81)	

Ident. No.	
8006200	

IKA® Particle size reduction

Microfine grinder



Configuration Example

1

MF 10 basic

Drive for inline microfine grinder. Grinding head and sieves not incl. with delivery, page 83.

2

MF 10.1

Cutting-grinding head, interchangeable with impact grinding head MF 10.2, page 83.

4

MF 0.5

Sieve for insertion into cutting-grinding head MF 10.1 or impact grinding head MF 10.2, with hole size 0.5 mm, page 83.

3

1

MF 10 basic

Drive for inline microfine grinder. Grinding head and sieves not incl. with delivery, page 83.

3

MF 10.2

Impact grinding head, interchangeable with cutting-grinding head MF 10.1, page 83.

5

MF 2.0

Sieve for insertion into cutting-grinding head MF 10.1 or impact grinding head MF 10.2, with hole size 2,0 mm, page 83.

IKA® Particle size reduction

Microfine grinder



MF 10 basic Microfine grinder drive

Continuously operating universal grinder.

- Powerful drive
- Easy to clean working surface made of stainless steel
- Two different grinding heads can be attached to the drive
- Heads are easily changeable
- Grinding heads not incl. with delivery

Accessories (Page):

MF 10.1 Cutting-grinding head (83),
MF 10.2 Impact grinding head (83)

Motor rating	
input / output	1.000 / 500 W
Speed range	3.000 - 6.500 rpm
Circumferential speed:	
Cutting-grinding head	22,5 m/s
Impact grinding head	31,4 m/s
Materials in contact	
with medium	stainl. steel (AISI 316L)
Duty cycle ON / OFF	120 / 30 min
Overload protection	yes
Weight	9,7 kg
Dimensions (W x D x H)	320 x 300 x 380 mm
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 22

Ident. No.		Ident. No.	
2836000	230 V 50/60 Hz	2836001	115 V 50/60 Hz



MF 10.1 Cutting-grinding head

For crushing fibrous substances such as paper and vegetation, but also for plastics and material with a low volume weight. Before being discharged, the ground material passes through a sieve. This sieve is interchangeable and available in different hole sizes (not incl. with delivery). The ground material can then be collected using an NS 29 standard ground vessel.

Circumferential speed	22,5 m/s
Max. granularity of the task	max. 15 mm
Dimensions including MF 10 basic	320 x 300 x 560 mm
Weight incl. MF 10 basic	10,5 kg
Materials in contact with medium	stainl. steel
Grinding channel and cover	(AISI 304)
Blades	(AISI 440B)
Shaft, rotor, screws	(AISI 316L)
Accessories (Page):	
MF Sieve (83)	

Ident. No.	
2870900	

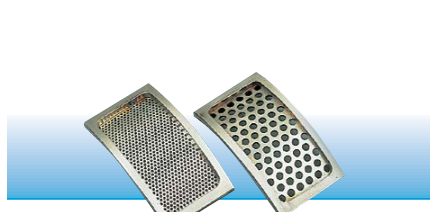


MF 10.2 Impact grinding head

For crushing brittle, hard materials such as minerals, building materials up to Mohs hardness 6. Before being discharged, the ground material passes through a sieve. This sieve is interchangeable and available in different hole sizes (not incl. with delivery). The ground material can then be collected using an NS 29 standard ground vessel.

Circumferential speed	31,4 m/s
Max. granularity of the task	max. 10 mm
Dimensions including MF 10 basic	320 x 300 x 450 mm
Weight including MF 10 basic	11 kg
Materials in contact with medium	stainl. steel
Grinding channel and cover	(AISI 304)
Hammer beater	(AISI 304)
Shaft, rotor, screws	(AISI 316L)
Accessories (Page):	
MF Sieve (83)	

Ident. No.	
2871000	



MF Sieves

Interchangeable sieves for insertion into the grinding heads ensure maximum particle size filtering.

Material	stainl. steel (AISI 304)			
Hole size (diameter)				
MF 0.25	0,25 mm	MF 2.0	2,0 mm	
MF 0.5	0,5 mm	MF 3.0	3,0 mm	
MF 1.0	1,0 mm	Wider holes on request.		

Ident. No.	Product	Ident. No.	Product
2938900	MF 0.25		
2939200	MF 1.0	2939000	MF 0.5
2939400	MF 2.0		
2939500	MF 3.0		

IKA® Heating

Heating baths



1

HB 4 basic

Heating bath with 4 l useful volume,
page 85.

2

HBR 4 digital

Heating bath with 4 l useful volume,
digital display and magnetic stirring
drive, page 85.

3

H 240

Ring set to cover the heating baths,
page 87.

IKA® Heating

Heating baths



HB 4 basic Heating bath

The heating bath is characterized by the following features:

- Cylindrical bath shape
- High-grade recyclable materials
- The heating elements are situated underneath the bath vessel
- Either low viscosity oil (50 mPas) or water can be used as the heat transfer fluid
- Useful volume of 4 liters
- Heat output 1.000 W
- Infinitely adjustable safety temperature limiter acc. to DIN 12877
- Double jacket and carrying handles provide protection against burns

Accessories (Page):
H 240 Ring set (87)

Heat output	1.000 W
Temperature range	RT - 225 °C
Setting tolerance	± 5 K
Deviation	± 5 K
Temperature display	scale
Safety class acc. to DIN 12877	2
Stirring function	no
Useful volume	4 l
Material	stainl. steel (AISI 304)
Outer diameter	340 mm
Inner diameter	200 mm
Outer height	250 mm
Inner height	160 mm
Weight	3,9 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 42

Ident. No.	Ident. No.
2520000	230 V 50/60 Hz 2520001 115 V 50/60 Hz



HBR 4 digital Heating bath

The digital heating bath is characterized by the following features:

- Digital display presents rated, actual and safety temperature as well as speed
- Fuzzy logic control
- Integrated magnetic stirring drive to circulate the tempering fluid, which contributes to improved heat distribution
- The safety elements are checked when the unit is switched on
- See HB 4 basic for additional features

Accessories (Page):
H 240 Ring set (87),
H 159 Intermediate bottom (87),
IKAFLON® Stirring bars (25)

Heat output	1.000 W
Temperature range	RT - 200 °C
Setting tolerance	± 1 K
Deviation (3 l H ₂ O, 90 °C)	± 0,4 K
Temperature display	digital
Safety class acc. to DIN 12877	2
Stirring function	yes
Speed range	100 - 800 rpm
Useful volume	4 l
Material	stainl. steel (AISI 304)
Outer diameter	340 mm
Inner diameter	200 mm
Outer height	250 mm
Inner height	160 mm
Weight	4,4 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
2602300	230 V 50/60 Hz 2602301 115 V 50/60 Hz

IKA® Heating

Heating plates



HP 30 digital IKATHERM®

Heating plate with a large set-up surface (300 x 300 mm).

- Adjustable heating capacities of 25 %, 50 % and 100 %
- Homogenous temperature distribution across entire plate
- Digital temperature display and electronic control
- Safety features to prevent skin contact
- Surface is made of corrosive-resistant materials

Accessories (Page):

HP 30.1 Temperature sensor (87)

Heat output	2.500 W
Temperature range	RT - 300 °C
Setting accuracy	± 1 K
Temperature sensor in medium	PT 100
Control accuracy with temperature sensor	± 1 K
Heating plate material	cast iron
Heating plate dimensions	300 x 300 mm
Dimensions (W x D x H)	320 x 400 x 140 mm
Weight	15 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.

2609900

230 V 50/60 Hz

HP-M6 basic IKATHERM®

This multi-position heating device has been designed for serial testing and for testing at different temperatures.

- Ideal for Soxhlet applications or classic Kjeldahl decompositions
- Stainless steel collecting tank prevents the medium from spilling

Accessories (Page):

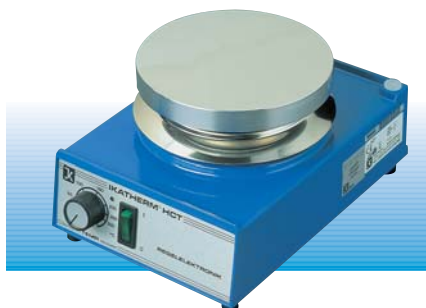
HP-M6.10 Stand rod intake (87),
HP-M6.11 Stand rod (87),
H 44 Boss head clamp (88),
R 350 Universal clamp (88),
Heating calotte (88): HP-M6.20, HP-M6.22

Heating positions	6
Heat output	6 x 450 W
Temperature range	RT - 530 °C
Setting accuracy	± 10 K
Control deviation	± 10 K
Heating plate material	cast iron
Heating plate dimensions	Ø = 85 mm
Dimensions (W x D x H)	730 x 190 x 170 mm
Weight	15 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.

2610000

230 V 50/60 Hz



HCT IKATHERM®

Universal laboratory heating plate.

- Infinitely adjustable temperature from 50 °C - 300 °C
- Temperature control by an integral thermoelement
- A contact thermometer may also be connected
- Housing has an impact-, scratch- and acid-resistant epoxy coating

Accessories (Page):

ETS-D 4 fuzzy Electronic contact thermometer (21), H 16 V Support rod (23),
Bath attachments (24): H 15, H 28,
Oil bath attachments (24): H 29, H 30

Heat output	600 W
Temperature range	RT - 300 °C
Setting accuracy	± 10 K
Temperature sensor in medium	ETS-D 4 fuzzy
Control accuracy with temperature sensor	± 1 K
Heating plate material	silumin
Heating plate dimensions	Ø = 135 mm
Dimensions (W x D x H)	155 x 235 x 118 mm
Weight	1,5 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.

1604400

230 V 50/60 Hz

Ident. No.

1604405

115 V 50/60 Hz

Accessories heating baths / heating plates



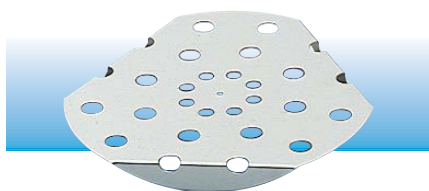
H 240 Ring set

To cover the heating baths HB 4 basic and HBR 4 digital. Prevents dust penetration, uncontrolled heat dissipation as well as water absorption and the formation of oil mist when working with oil.

Number of rings	10
Diameter of opening, (variable)	25 - 185 mm

Ident. No.

2858700

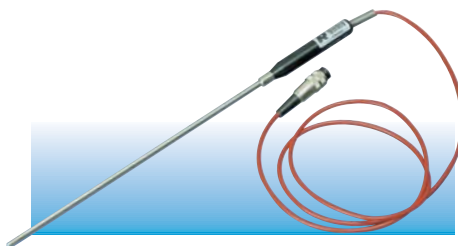


H 159 Intermediate bottom

Allows vessels to be inserted in the heating bath HBR 4 digital without obstructing movement of the rotating magnetic bars.

Ident. No.

1809700



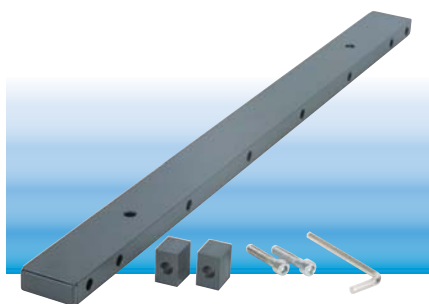
HP 30.1 Temperature sensor

For heating plate HP 30 digital. For controlling the temperature in the medium.

Immersion depth	290 mm
Diameter	6 mm
Material	stainl. steel (AISI 304)

Ident. No.

2609800



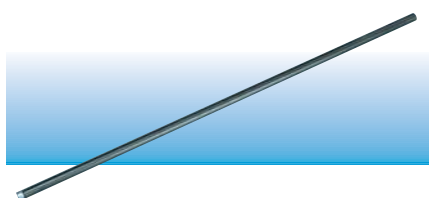
HP-M6.10 Stand rod intake

For attaching up to 6 stand rods HP-M6.11 to the back of the heating device HP-M6 basic.

Accessories (Page):
HP-M6.11 Stand rod (87)

Ident. No.

2610100



HP-M6.11 Stand rod

For heating device HP-M6 basic.

Accessories (Page):
H 44 Boss head clamp (88)
R 350 Universal clamp (88)

Ident. No.

2610200

IKA® Heating

Heating plates accessories



H 44 Boss head clamp

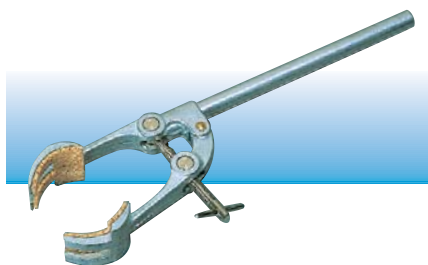
To attach the universal clamp R 350 to the stand rod HP-M6.11.

Material

diecast aluminum

Ident. No.

2437700

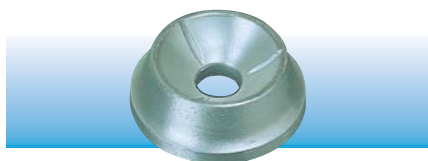


R 350 Universal clamp

For clamping flask necks, condensers, etc. up to 11 cm diameter.

Ident. No.

1752900



HP-M6.20 Heating calotte

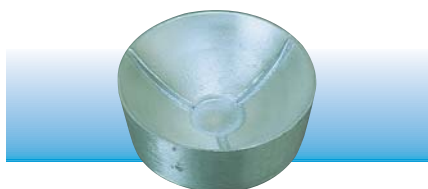
For optimum heat transmission to 250 ml round-bottom flasks.

Material

diecast aluminum

Ident. No.

2610500



HP-M6.22 Heating calotte

For optimum heat transmission to 750 ml round-bottom flasks.

Material

diecast aluminum

Ident. No.

2610700

IKA® Tempering Thermostats

LT 6 control Circulation thermostat

Programmable thermostat for sophisticated tempering tasks up to 300 °C.

- Temperature manually adjustable or controllable via PC
- Automatic adaption of control parameters to all temperature control tasks via PID control
- Suitable for technical procedure experiments, e.g. with lab reactors or kneaders
- Direct temperature control in external vessels is possible
- 2 x 1 m Viton hose (Ø = 10 mm, max. temperature 180 °C), included with delivery



Heat output	2.000 W
Temperature range	60 - 300 °C
with water cooling	20 - 300 °C
Temperature display	digital
Setting accuracy	± 0,01 K
Temperature constancy at 70 °C	± 0,02 K
Adjustable temperature limitation	20 - 300 °C
Max. delivery pressure	500 mbar
Max. delivery rate	18 l/min
Ext. connection socket for PT 100	yes
Interface	RS 232, RS 485, analog
Dimensions (W x D x H)	230 x 365 x 405 mm
Weight	18 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21
Safety class FL	yes

Accessories (Page):

LT 5.20 Hose (90),
Hose adapters (90): LT 5.22, LT 5.23 and LT 5.24,
PC 2.3 Cable (90), labworldsoft® (131),
Temperature sensors (90): PT 100.5, PT 100.7

Ident. No.		Ident. No.	
3036100	230 V 50/60 Hz	3036101	115 V 50/60 Hz

EH 4 basic Immersion thermostat

For temperature control of liquids (NFL/I) up to 100 °C in open baths (min. bath depth 160 mm, min. usable depth 75 mm).

- Complies with all safety requirements for electrically operated devices
- Intended for supervised use
- For operation with non-flammable liquids only
- With universal clamp, suitable for all standard bath vessels



Heat output	1.500 W
Temperature range	25 - 100 °C
Temperature display	scale
Temperature stability (70 °C)	± 0,12 K
Adjustable temperature limitation	25 - 200 °C
Max. pump pressure (H ₂ O)	0.08 bar (0 l output flow)
Max. delivery rate	5 l/min
Dimensions (W x D x H)	105 x 139 x 319 mm
Weight	2,3 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 31
Safety class acc. to DIN 12876	yes

Accessories (Page):

Bath vessels (89): EH 4.1, EH 4.2, EH 4.3

Ident. No.		Ident. No.	
3164000	230 V 50/60 Hz	3164001	115 V 50/60 Hz

Bath vessels

Polycarbonate bath vessels, suitable for use with the immersion thermostat EH 4 basic, up to 100 °C.

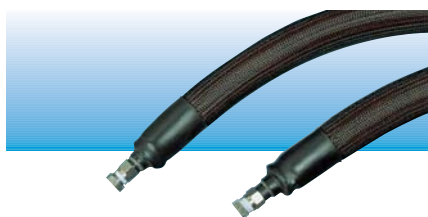


Material	polycarbonate
Volume without vessels	5, 11, 18 l
Outer dimensions (W x D x H)	EH 4.1 132 x 280 x 160 mm
	EH 4.2 350 x 313 x 168 mm
	EH 4.3 350 x 473 x 168 mm
Inner dimensions (W x D x H)	EH 4.1 120 x 262 x 150 mm
	EH 4.2 302 x 295 x 150 mm
	EH 4.3 302 x 455 x 150 mm

Ident. No.	
3335000	EH 4.1 (5 l)
3335100	EH 4.2 (11 l)
3335200	EH 4.3 (18 l)

IKA® Tempering

Thermostats accessories



LT 5.20 Hose

Coated metall hoses for circulation thermostat LT 6 control. Package contains 2 hoses.

Material	metal
Length	1 m
Max. temperature	300 °C

Accessories (Page):

Hose adapters (90): LT 5.22, LT 5.23, LT 5.24

Ident. No.

2606700



LT 5.22 Hose adapter

For connection to the kneader HKD - T 06 D (page 56) or the measuring kneader MDK 0.6-H 60 (page 130).

Dimensions adapter	R 1 / 8" x M 16 x 1
--------------------	---------------------

Ident. No.

2807000



LT 5.23 Hose adapter

For connection to the reactor vessels LR 2000.3 and LR 2000.4 (page 125).

Dimensions adapter	R 1 / 4" x M16 x 1
--------------------	--------------------

Ident. No.

2235000



LT 5.24 Hose adapter

For connection to the reactor vessels LR 2000.1 and LR 2000.2 (page 124).

Dimensions adapter	R 1 / 8" x M16 x 1
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Ident. No.

2578100



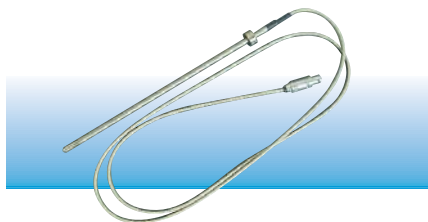
PC 2.3 Cable

For connecting the circulation thermostat LT 6 control to a PC (9 pin interface).

Length	3 m
--------	-----

Ident. No.

3036200



PT 100.5

Temperature sensor for use with laboratory reactor systems LR 2000.

Length	255 mm
Diameter	6 mm
Material	stainl. steel (AISI 316L)

Ident. No.

2506800



PT 100.7

Temperature sensor for use with laboratory kneader HKD - T 06 D and measuring kneader MKD 0.6 - H 60.

Length	135 mm
Diameter	3 mm
Material	stainl. steel (AISI 316L)

Ident. No.

2611500

IKA® Liquid Handling

Fixed volume pipettes



Brand **NEW** at **IKA®**
Fixed volume pipettes in three sizes
(for more information, see next page)


IKA® Liquid Handling

Fixed volume pipettes



IKA®-PET for 25 µl, 50 µl and 100 µl

High-precision air cushion piston stroke pipette for science, research and routine work in the field of liquid handling.

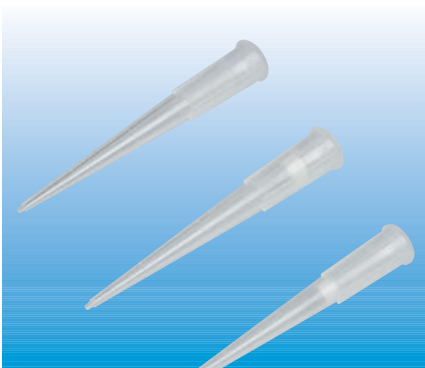
- Single channel air cushion piston stroke pipette (fixed volume)
- Pipette and tips with certificate of conformity acc. to DIN EN ISO 8655 
- Maximum accuracy and precision of pipette and tip system
- High quality tip with ULR (Ultra low retention) surface
- High quality casing and flask material
- Minimum manpower required even for blow out and tip ejection
- Simple operation due to ergonomic design
- Easy to maintain thanks to the assembly tool provided
- Adjustable even for liquids with different density to water
- Includes software for measurement calibration and analysis

Model 25 µl	
Nominal volume	25 µl
Accuracy Systematic error [e _s]	± 1,0 %
Precision Random error [CV]	≤ 0,3 %
Model 50 µl	
Nominal volume	50 µl
Accuracy Systematic error [e _s]	± 0,7 %
Precision Random error [CV]	≤ 0,3 %
Model 100 µl	
Nominal volume	100 µl
Accuracy Systematic error [e _s]	± 0,6 %
Precision Random error [CV]	≤ 0,2 %
General data	
Dimensions (W x D x H)	28 x 52 x 206 mm
Weight	0,075 kg

Ident. No.	
3222202	25 µl
3222201	50 µl
3222200	100 µl

IKA® Liquid Handling

Accessories



ULR-pipette tips

Considerably improved inner surface, similar to Lotus Effect.

Description	Pack (pcs.)	sterile	Colour	Ident. No.
IKA®-TIP 200µl - bag	1000	no	natural	3330700
IKA®-TIP 200µl - box	2 x 1000	no	natural	3330701
IKA®-TIP 200µl - 96er-rack	10 x 96	no	natural	3330702
IKA®-TIP 200µl - 96er-rack	10 x 96	yes	natural	3330703
IKA®-TIP Filter 1-100µl - bag	1000	no	natural	3330800
IKA®-TIP Filter 1-100µl - bag	1000	yes	natural	3330801
IKA®-TIP Filter 1-200µl - bag	1000	no	natural	3330900
IKA®-TIP Filter 1-200µl - bag	1000	yes	natural	3330901
IKA®-TIP Filter 100µl - 96er-rack	10 x 96	yes	natural	3331000
IKA®-TIP Filter 200µl - 96er-rack	10 x 96	yes	natural	3331100



IKA®-PET Rack 1 and Rack 3

Pipette stands for IKA®-pipettes.

Pipette stands	
Rack 1	1 pipette
Rack 3	max. 3 pipettes

Ident. No.	
3224000	Rack 1
3224001	Rack 3



IKA®-PET soft

Is a user-friendly program for the automatic recording, analysis and management of gravimetric measurements for pipette calibration.

- Suitable for single and multi-channel pipettes with fixed and variable volumes
- Testing in accordance with DIN EN ISO 8655
- Automatic transfer of measurements from scales, air pressure, humidity and temperature by RS 232 interface
- Automatic correction of environmental air pressure and temperature conditions
- Programm controlled recalibrating of the pipette is possible

- Master data for over 580 pipettes by other manufacturers already stored
- Inventory of individual pipettes
- Date-controlled monitoring of calibration cycles
- Measuring results saved in a database
- Log according to GLP guidelines with details of all individual measurements, average, accuracy and precision
- Compatible with all Microsoft Win32 operating systems (Win95/98/ME/NT/2000/XP etc.)

Ident. No.	
3220300	

IKA® Distilling

Rotary evaporators



RV 06-ML 1-B

Consisting of heating bath HB 4 basic, set of glassware RV 06.1 with diagonal condenser and drive RV-06 ML with lift with electrical height adjustment.

- Wearless drive with brushless DC motor
- Convenience and safety with motorized lift; the glassware is not moved
- Condenser geometry with 1.200 cm² cooling surface, higher yield and increased condensation power
- No chimney effect, no foaming
- Rodaviss screw joint allows bonded ground joints to be released easily, removable screw connections facilitate cleaning of glass components

Accessories (Page):

RV 06.2 Set of glassware (97),
VC 2 Vacuum controller (112)

Set of glassware	RV 06.1
Type of condenser	diagonal
Cooling surface	1.200 cm ²
Drive	RV 06-ML
Motor type	DC motor
Motor rating	
input / output	45 / 36 W
Speed range	10 - 240 rpm
Head inclination, adjustable	± 10 °
Lift	
Stroke min. / max.	74 / 150 mm
Drive	motor
Max. load	10 kg
Alignment end stop on top	76 mm
Lower limit switch	fixed
Heating bath	HB 4 basic
Temperature range	RT - 225 °C
Heating output	1.000 W
Setting accuracy	± 5 K
Control deviation	± 5 K
General data	
Dimensions (W x D x H)	840 x 390 x 880 mm
Weight	18 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
8010000	8010001
230 V 50/60 Hz	115 V 50/60 Hz



RV 06-ML 2-B

Consisting of heating bath HB 4 basic, set of glassware RV 06.2 with vertical condenser (space-saving), drive RV 06-ML with lift with electrical height adjustment.

- Wearless drive with brushless DC motor
- Convenience and safety with motorized lift; the glassware is not moved
- Condenser geometry with 1.200 cm² cooling surface, higher yield and increased condensation power
- No chimney effect, no foaming
- Rodaviss screw joint allows bonded ground joints to be released easily, removable screw connections facilitate cleaning of glass components
- Suitable for DIN EN 12697-3 (Asphalt test for hot asphalt)

Accessories (Page):

RV 06.1 Set of glassware (96),
VC 2 Vacuum controller (112)

Set of glassware	RV 06.2
Type of condenser	vertical
Cooling surface	1.200 cm ²
Drive	RV 06-ML
Motor type	DC motor
Motor rating	
input / output	45 / 36 W
Speed range	10 - 240 rpm
Head inclination, adjustable	± 10 °
Lift	
Stroke min. / max.	74 / 150 mm
Drive	motor
Max. load	10 kg
Alignment end stop on top	76 mm
Lower limit switch	fixed
Heating bath	HB 4 basic
Temperature range	RT - 225 °C
Heating output	1.000 W
Setting accuracy	± 5 K
Control deviation	± 5 K
General data	
Dimensions (W x D x H)	640 x 390 x 1.130 mm
Weight	18 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Ident. No.	Ident. No.
8010100	8010101
230 V 50/60 Hz	115 V 50/60 Hz

IKA® Distilling

Rotary evaporators



RV 05 basic 1-B

Newly designed! Consisting of heating bath HB 4 basic, set of glassware RV 06.1 with diagonal condenser, drive RV 05 basic, telescopic stand RV 05.3 and boss head clamp 271.

- Easy and jolt-free raising and lowering of the rotary evaporator
- Telescopic stand tiltable to the side
- Rodaviss screw joint allows bonded ground joints to be released easily, removable screw connections facilitate cleaning of glass components
- Condenser geometry with 1.200 cm² cooling surface, higher yield and increased condensation power
- No chimney effect, no foaming

Accessories (Page):

RV 06.2 Set of glassware (97),
VC 2 Vacuum controller (112)

Set of glassware	RV 06.1
Type of condenser	diagonal
Cooling surface	1.200 cm ²
Drive	RV 05 basic
Motor type	asynchronous
Motor rating	
input / output	133 / 65 W
Speed range	46 - 260 rpm
Head inclination, adjustable	any
Lift	RV 05.3
Stroke	190 mm
Max. load	10 kg
Swivel feature	90 °
Heating bath	HB 4 basic
Temperature range	RT - 225 °C
Heating output	1.000 W
Setting accuracy	± 5 K
Control deviation	± 5 K
General data	
Dimensions (W x D x H)	520 x 450 x 900 mm
Weight	12 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	21 IP

Ident. No.		Ident. No.	
8017900	230 V 50/60 Hz	8017901	115 V 50/60 Hz

RV 05 basic 2-B

Newly designed! Consisting of heating bath HB 4 basic, set of glassware RV 06.2 with vertical condenser (space-saving), drive RV 05 basic, telescopic stand RV 05.3 and boss head clamp R 271.

- Easy and jolt-free raising and lowering of the rotary evaporator
- Telescopic stand tiltable to the side
- Rodaviss screw joint allows bonded ground joints to be released easily, removable screw connections facilitate cleaning of glass components
- Condenser geometry with 1.200 cm² cooling surface, higher yield and increased condensation power
- No chimney effect, no foaming
- Suitable for DIN EN 12697-3 (Asphalt test for hot asphalt)

Accessories (Page):

RV 06.1 Set of glassware (96),
VC 2 Vacuum controller (112)



Set of glassware	RV 06.2
Type of condenser	vertical
Cooling surface	1.200 cm ²
Drive	RV 05 basic
Motor type	asynchronous
Motor rating	
input / output	133 / 65 W
Speed range	46 - 260 rpm
Head inclination, adjustable	any
Lift	RV 05.3
Stroke	190 mm
Max. load	10 kg
Swivel feature	90 °
Heating bath	HB 4 basic
Temperature range	RT - 225 °C
Heating output	1.000 W
Setting accuracy	± 5 K
Control deviation	± 5 K
General data	
Dimensions (W x D x H)	580 x 480 x 1.000 mm
Weight	12 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	21 IP

Ident. No.		Ident. No.	
8018000	230 V 50/60 Hz	8018001	115 V 50/60 Hz

IKA® Distilling

Accessories rotary evaporators



RV 05 basic drive

Rotary evaporator drive, newly designed. The drive output is transmitted directly to the vapor tube via a control gear with secondary torque coupling.

- Condenser motor supported by means of ball bearing
- Constant operation is guaranteed even with heavy loads

Motor type	asynchronous
Motor rating	
input / output	133 / 65 W
Speed range	46 - 260 rpm
Speed display	scale
Dimensions (W x D x H)	130 x 200 x 260 mm
Weight	4,5 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Accessories (Page):

RV 05.3 Telescopic stand (96),
Set of glassware (96/97): RV 06.1, RV 06.2
HB 4 basic Heating bath (85),
R 271 Boss head clamp (108)

Ident. No.	Ident. No.
3075000	230 V 50/60 Hz 3075001 115 V 50/60 Hz

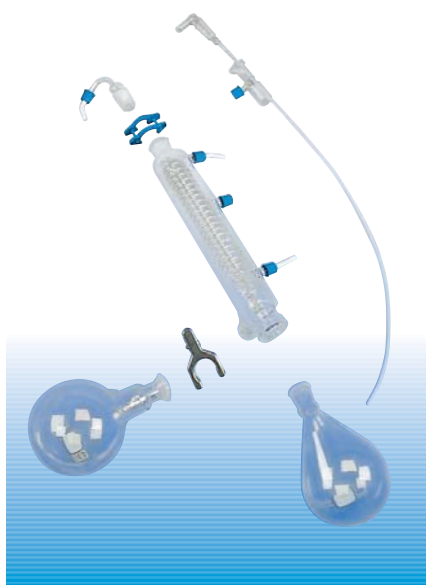


RV 05.3 Telescopic stand

Raising is made easier by a jolt-free pneumatic spring.

Diameter of support rod	34 mm
Max. load	10 kg
Stroke	190 mm
Height	710 - 900 mm
Dimensions (W x D x H)	580 x 450 x 900 mm

Ident. No.
3154100



RV 06.1 Set of glassware

Diagonally mounted condenser for all standard distillation tasks.

- Can be assembled and disassembled quickly and without difficulty
- Included with delivery: one 1.000 ml evaporating flask and one 1.000 ml receiving flask

Type of condenser	diagonal
Cooling surface	1.200 cm ²

Accessories (Page):

Evaporating flasks (97): RV 06.4, RV 06.5, RV 06.6,
RV 06.7 Receiving flask (97),
RV 06.11 Vapor tube (97),
Seals (97): RV 06.13, RV 06.15

Ident. No.
1957500

IKA® Distilling

Accessories rotary evaporators



RV 06.2 Set of glassware

With space-saving vertical condenser. The distributor part is fitted with a condensate blocker as well as a discharge channel which prevents the condensate from getting into contact with the seal. A PTFE inlet pipe facilitates constant in-feed of the distillate.

Included with delivery: one 1.000 ml evaporating flask and one 1.000 ml receiving flask

Type of condenser	vertical
Cooling surface	1.200 cm ²

Accessories (Page):

Evaporating flasks (97): RV 06.4, RV 06.5, RV 06.6,
RV 06.7 Receiving flasks (97),
RV 06.11 Vapor tube (97),
Seals (97): RV 06.13, RV 06.15

Ident. No.
1957600



RV 06.11 Vapor tube ①

For set of glassware RV 06.1 and RV 06.2.

RV 06.13 Seal ②

For RV 06.11.

RV 06.15 Seal ③

For RV 06.11, resistant to solvents.

Diameter	21,6 mm
Material	Viton® with PTFE coating
Material	PTFE

Ident. No.
1958000 RV 06.11
1907800 RV 06.13
2114700 RV 06.15

Evaporating flasks, NS 29

RV 06.4 ①

Volume	1 l
Material	borosilicate glass

RV 06.5 ②

Volume	2 l
Material	borosilicate glass

RV 06.6 ③

Volume	0,1 l
Material	borosilicate glass

Ident. No.
1905600 RV 06.4
1905500 RV 06.5
1905700 RV 06.6

RV 06.7 Receiving flask, KS 35

Volume	1 l
Material	borosilicate glass

Ident. No.
1906600

IKA® Extracting

Solid-liquid extractors

fexlKA® vario control

The solid-liquid extractor based on the fluidized bed extraction principle (FBE) saves time, space and money with every extraction. 4 extractions can be handled simultaneously, controlled by a single PC. Applications include extractions of soil, pharmaceuticals, plastics, textiles, food, animal tissues, coal and many more.

- Reduces extraction times up to 90 % compared to standard Soxhlet procedures
- Decreased solvent volumes, lower purchase and disposal costs
- Less space required: 4 extraction positions all placed on one hotplate stirrer
- Distillation of the 4 extractions may be performed simultaneously, eliminating the need for rotary evaporators or other procedures to concentrate the extracts and to recover the solvents
- PC-control allows for unattended operation during programmable cycles, and up to 8 units can be controlled simultaneously from a single PC (labworldsoft® included with delivery)
- User friendly and easy handling
- Stainless steel basic vessel available for applications that require solvents with high boiling points (accessories)
- High efficiency cooling permits extraction of volatile compounds
- Special solvent-resistant connections
- Soxhlet extractions are optional with special Soxhlet attachment (accessory G 251)

Accessories (Page):

G 118 Glass insulation (105),
G 271 Distilling attachment (101),
G 251 Attachment based on Soxhlet (101),
GF 260 Set of glassware (101),
FE 1 Extraction thimbles (102),
G 65 Stainless steel basic vessel (102),
Filter sets (102): FF 1, FF 2, FF 3, FF 4,
GF 200.1 Rack (105),
PC 1.5 Cable (136)
PCI 8.2 Plug-in card (135)

Number of extraction places	4
Volume of basic vessels	200 ml
Recommended working volume	4 x 100 ml
Power input	650 W
Heat output	600 W
Interface	RS 232
Material connections	PTFE compound stainl. steel (AISI 316L)
Material O-rings	FEP coated
Max. temperature connections	max. 200 °C

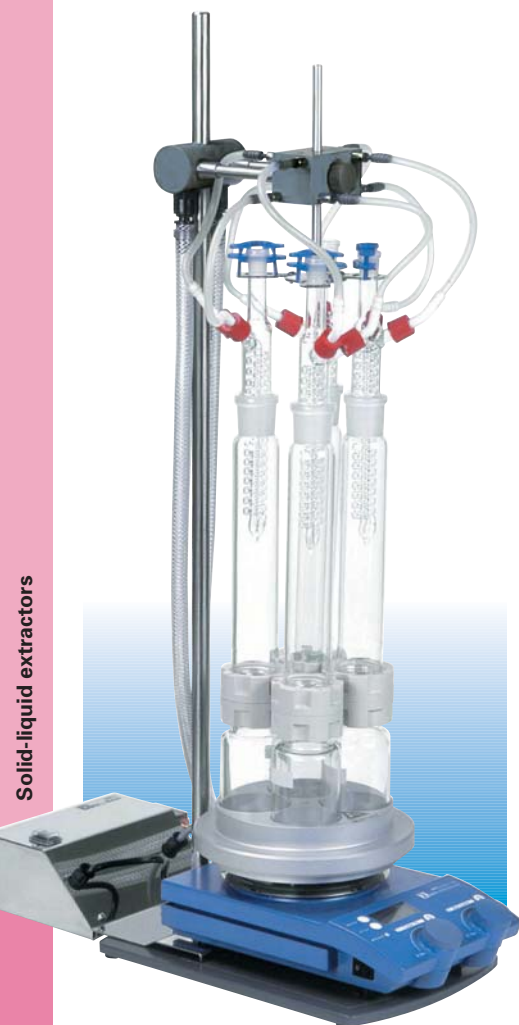
Included with delivery (Page):

RET control-visc *safety control*, magnetic stirrer with heating (11)
PT 100.52 Temperature sensor (23)
KH 135.2 Cooling and heating block
GF 260 Set of glassware (101)
R 1826 Stand (106)
KHS 1 Cooling and heating controller
G 700 Distributor
labworldsoft® (131)
PC 1.5 Cable (136)
PC 2.2 Adapter (136)

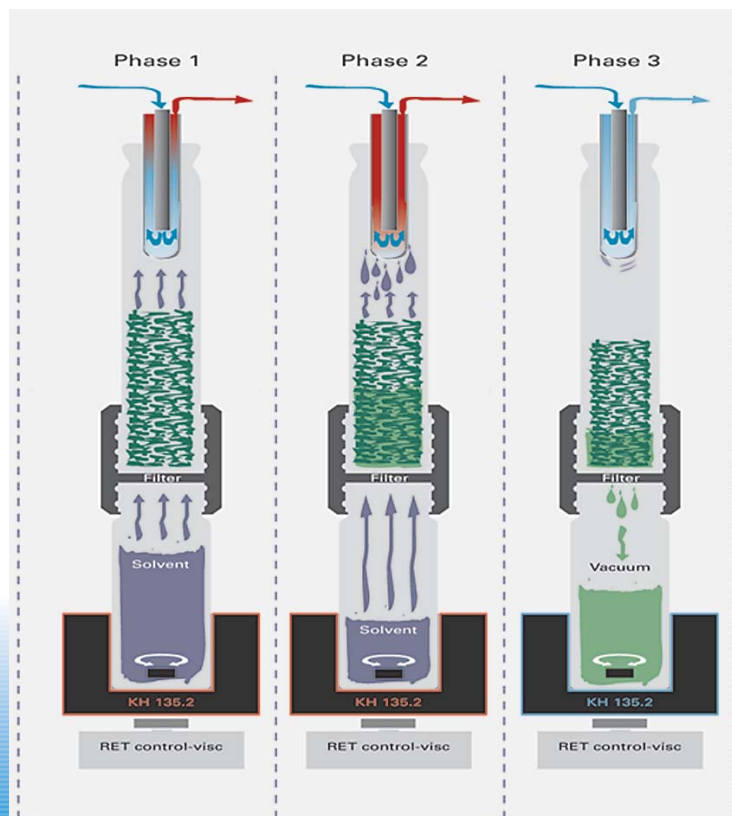
Hard- and software requirements:

Pentium 90 with at least 16 MB RAM and a mouse.
VGA display: monochrome with at least 16 levels of grey or color.
Windows 95/98/2000/NT/ME/XP...

Detailed brochure on request



IKA® Extracting Solid-liquid extractors



Functional principle fexIKA® systems

Phase 1

The solvent is heated up to the boiling point and evaporates. The solvent vapor penetrates the filter and the extraction material. At the start it condenses within the extraction material.

Phase 2

The solvent vapor condenses at the cooling element and drop onto the sample. The condensed solvent in the extraction tube is heated to a rolling boil. The sample is cooked intensively in the solvent and whirled up. This fluidized bed technique ensures a particularly effective-extraction kinetics for the whole extraction period.

The condensed solvent is collected in the extraction tube, while the solvent in the basic vessel is permanently reduced.

Phase 3

Heating is switched off after the set heating period has elapsed and by releasing the solenoid valve the cooling liquid is directed through the cooling and heating block.

The induced cooling and the condensing of the solvent create a vacuum in the basic vessel. The resulting differential pressure in relation to the atmospheric pressure conveys the extract solution through the filter into the basic vessel. After the set cooling period has elapsed, another heating period can start with phase 1. The complete cycle may be repeated any number of times. This ensures individual adaptation to all extraction tasks.

IKA® Extracting

Solid-liquid extractors



fexIKA® dive-in control

The solid-liquid extractor based on the fluidized bed extraction principle (FBE) saves time, space and money with every extraction. 4 extractions can be handled simultaneously, controlled by a single PC. The "dive-in" extraction is an energetically optimized hot extraction. By immersing the sample thimble into the vessel with solvent, high evaporation rates and short cycle times can be achieved even for high-boiling solvents. With the variation of the immersion depth of the extraction tube into the basic vessel, the energy entry is variable. The loss of volatile compounds can be minimized by immersing the sample into the cold solvent. Applications include extractions of soil, pharmaceuticals, plastics, textiles, food, animal tissues, coal and many more.

- Reduces extraction times up to 90 % compared to standard Soxhlet procedures
- Decreased solvent volumes, lower purchase and disposal costs
- Less space required: 4 extraction positions all placed on one hotplate stirrer
- Distillation of the 4 extractions may be performed simultaneously, eliminating the need for rotary evaporators or other procedures to concentrate the extracts and to recover the solvents
- PC-control allows for unattended operation during programmable cycles, and up to 8 units can be controlled simultaneously from a single PC (labworldsoft® included with delivery)
- User friendly and easy handling
- Special solvent-resistant connections
- Soxhlet extractions are optional with special Soxhlet attachment (accessory G 351)

Accessories (Page):

G 118 Glass insulation (105),
G 371 Distilling attachment (103),
G 351 Attachment based on Soxhlet (103),
GF 300 Set of glassware (104),
FE 2 Extraction thimbles (104),
Filter sets (104): FF 10, FF 20, FF 40,
GF 200.1 Rack (105),
PC 1.5 Cable (136),
PCI 8.2 Plug-in card (135)

Number of extraction places	4
Volume of basic vessels	200 ml
Recommended working volume	4 x 60 ml
Power input	650 W
Heat output	600 W
Interface	RS 232
Material connections	PTFE compound stainl. steel (AISI 316L)
Material O-rings	FEP coated
Max. temperature connections	max. 200 °C

Included with delivery (Page):

RET control-visc *safety control*, magnetic stirrer with heating (11)
PT 100.52 Temperature sensor (23)
KH 135.2 Cooling and heating block
GF 300 Set of glassware (104)
R 1826 Stand (106)
KHS 1 Cooling and heating controller
G 700 Distributor
labworldsoft® (131)
PC 1.5 Cable (136)
PC 2.2 Adapter (136)

Hard- and software requirements:

Pentium 90 with at least 16 MB RAM and a mouse.
VGA display: monochrome with at least 16 levels of grey or color.
Windows 95/98/2000/NT/ME/XP...

Detailed brochure on request

Ident. No.	Ident. No.
8018100	8018101
230 V 50/60 Hz	115 V 50/60 Hz

IKA® Extracting

Accessories (fexIKA® vario control)



G 271 Distilling attachment
Used for the distillation of the solvent after the extraction directly from the basic vessel.

Material	borosilicate glass
Connections	NS 45 / GL 45
Volume	ca. 90 ml

Ident. No.
3253900



G 251 Attachment based on Soxhlet
Enables the extraction in accordance with the Soxhlet method and the distillation of the solvent after the extraction directly from the basic vessel.

Material	borosilicate glass
Connections	NS 45 / GL 45
Volume	ca. 90 ml

Accessories (Page):
FE 1 Extraction thimbles (102)

Ident. No.
3254000



GF 260 Set of glassware
Standard set of glassware for the fexIKA® vario control.

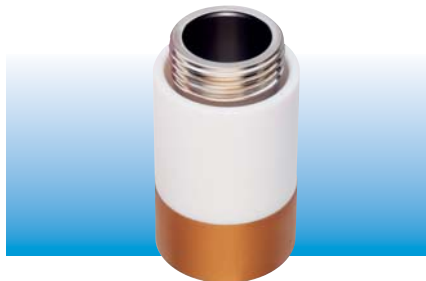
Material glass	borosilicate glass
Material connections	PTFE compound stainl. steel (AISI 316L)
Material O-rings	FEP coated
Material tubes	Silicone

Consisting of:
Basic vessels
Connections
Extraction tubes
Coolers
Cooler connections
Stirring bars
Fixing clamps
12 filters FF1

Ident. No.
3195500

IKA® Extracting

Accessories (fexIKA® vario control)



G 65 Stainless steel basic vessel

Specially developed for applications that use solvents with a high boiling point, for example the extraction of polymers. The increased heat transfer makes it possible to reduce the temperature of the heating plate and to reduce cycle times.

Material vessel	stainl. steel (AISI 316L)
Material ring	Aluminium
Material insulation	PTFE
Volume	80 ml
Fitting	GL 45

Ident. No.

3256200



Filter sets

The PTFE membrane filters are chemically resistant, anti-adhesive, tearproof and can be sterilized.

Material	PTFE
Diameter	42 mm
Packing unit	100 pieces

FF 1

Pore size	10 - 20 µm
Pore volume	65 %
Thickness	0,2 mm

FF 2

Pore size	30 - 60 µm
Pore volume	75 %
Thickness	0,2 mm

FF 3

Pore size	30 - 60 µm
Pore volume	60 %
Thickness	0,66 mm

FF 4

Pore size	2 - 5 µm
Pore volume	60 %
Thickness	0,18 mm

Ident. No.

2878500 FF 1

2878600 FF 2

2878700 FF 3

2878800 FF 4



FE 1 Extraction thimbles

For the extraction in accordance with the Soxhlet method with the attachment G 251.

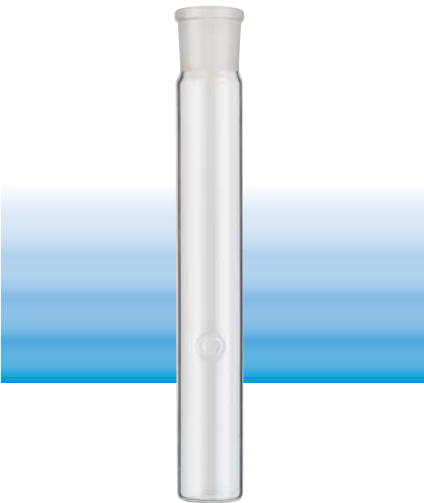
Material	cellulose
Dimensions (D x H)	28 x 80 mm
Packing unit	25 Stck.

Ident. No.

3245900

IKA® Extracting

Accessories (fexIKA® dive-in control)



G 371 Distilling attachment

Used for the distillation of the solvent after the extraction directly from the basic vessel.

Material	borosilicate glass
Connection	NS 29
Volume	ca. 50 ml

Ident. No.
3321300



G 351 Attachment based on Soxhlet

Enables the extraction in accordance with the Soxhlet method.

Material	borosilicate glass
Connection	NS 29
Volume	ca. 50 ml

Accessories (Page):
FE 2 Extraction thimbles (104)

Ident. No.
3321100



G 381 Extraction tube attachment

The extraction tube attachment G 381 allows extractions with extraction thimbles. The thimble with the product is inserted into the basic vessel and cooked with the condensing solvent. After the extraction, the thimble is lifted off and the sample is cleaned from any remaining extract.

Material	borosilicate glass
Connection	NS 29

Accessories (Page):
FE 2 Extraction thimbles (104)

Ident. No.
3321400

IKA® Extracting

Accessories (fexIKA® dive-in control)



GF 300 Set of glassware

Standard set of glassware for the fexIKA® dive-in control.

Consisting of:

Basic vessels
Connections
Extraction tubes
Coolers
Cooler connections
Stirring bars
Fixing clamps
12 filters FF 10

Material glass	borosilicate glass
Material connections	PTFE compound
Material O-rings	FEP coated
Material tubes	Silicone

Ident. No.

3300000



Filter sets

The PTFE membrane filters are chemically resistant, anti-adhesive, tearproof and can be sterilized.

Material	PTFE
Diameter	23 mm
Packing unit	100 pieces

FF 10

Pore size	10 - 20 µm
Pore volume	65 %
Thickness	0,2 mm

FF 20

Pore size	30 - 60 µm
Pore volume	75 %
Thickness	0,2 mm

FF 40

Pore size	2 - 5 µm
Pore volume	60 %
Thickness	0,18 mm

Ident. No.

2879600 FF 10

2879700 FF 20

2879800 FF 40



FE 2 Extraction thimbles

For the extraction in accordance with the Soxhlet method with the attachment G 351.

Material	cellulose
Dimensions (D x H)	19 x 90 mm
Packing unit	25 pieces

Ident. No.

3318900



G 118 Glass insulation

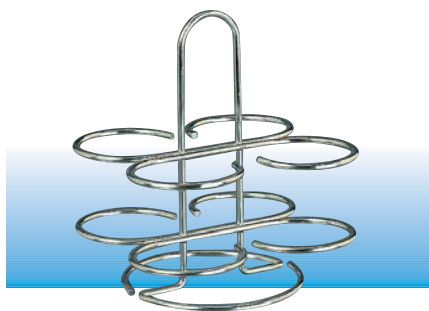
For improved warmth insulation.
Recommended for use with solvents with
a boiling point ≥ 80 °C.

Material

borosilicate glass

Ident. No.

3253800



GF 200.1 Rack

For the basic vessels.

Material

stainl. steel (AISI 304)

Ident. No.

2877000

IKA® Mechanical accessories

Stands



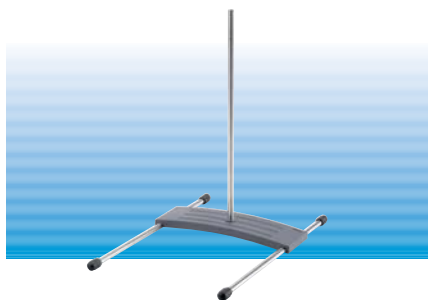
R 103 Plate stand

Suitable for small instruments such as the overhead stirrer RW 11 basic, page 26.

Diameter of support rod	10 mm
Plate diameter	160 mm
Height	360 mm
Max. load	1 kg

Accessories (Page):
H 44 Boss head clamp (108)

Ident. No.
2972500



R 104 Stand

Small stand for T 10 basic

Diameter of support rod	10 mm
Dimensions (W x D)	242 x 355 mm
Height	370 mm
Max. load	0,7 kg

Accessories (Page):
R 200 Clamp (108), H 44 Boss head clamp (108)

Ident. No.
3386000

Available 2. quarter 2005



Plate stand

With slip resistant foil.

R 1825

R 1826

R 1827

Diameter of support rod	16 mm
Dimensions (W x D)	200 x 316 mm
Max. load	5 kg
Height	560 mm
Height	800 mm
Height	1.000 mm

Accessories (Page):
R 182 Boss head clamp (108),
RH 3 Strap clamp (108)

Ident. No.		Ident. No.	
3160000	R 1825	3160200	R 1827
3160100	R 1826		



R 2722 H-Stand

Particularly stable stand with H-shape base which prevents the stand from tipping backwards. Provides optimum stability required for larger, heavier instruments and attachments, for example with rheological measurements using overhead stirrers.

The stand has an adjustment screw which can be used to compensate for an uneven laboratory table surface.

Diameter of support rod	34 mm
Dimensions (W x D)	460 x 420
Height	1.010 mm
Max. load	10 kg

Accessories (Page):
Boss head clamps (108): R 270, R 271,
RH 5 Strap clamp (108)

Ident. No.
1412000



R 2723 Telescopic stand

Similar to R 2722, additionally equipped with a pneumatic spring stand rod, which enables heavy instruments / attachments to be raised and lowered smoothly without difficulty, e.g. with rheological measurements using overhead stirrers.

The stand has an adjustment screw which can be used to compensate for an uneven laboratory table surface.

Diameter of support rod	34 mm
Dimensions (W x D)	460 x 420
Height	620 - 1.010 mm
Max. load	10 kg
Stroke	390 mm

Accessories (Page):
Boss head clamps (108): R 270, R 271,
RH 5 Strap clamp (108)

Ident. No.
1412100

IKA® Mechanical accessories

Stands



RV 05.3 Telescopic stand

Specially designed for the rotary evaporator drive RV 05. Raising is made easier by a jolt-free pneumatic spring.

Diameter of support rod	34 mm
Dimensions (W x D)	580 x 450 mm
Height	710 - 900 mm
Max. load	10 kg
Stroke	190 mm

Accessories (Page):

R 271 Boss head clamp (108)

Ident. No.

3154100



T 653 Telescopic stand

Specially designed for the dispersing instrument T 65. The stand is equipped with a pneumatic spring which enables effortless raising and lowering of the dispersion unit.

Diameter of support rod	48 mm
Dimensions (W x D)	460 x 530
Height	1.200 mm
Stroke	500 - 1.000 mm

Ident. No.

1608000



R 474 Telescopic stand

Specially designed for the overhead stirrer RW 47 D; can be adapted for use with other instruments. The stand is equipped with a pneumatic spring which enables effortless raising and lowering of the dispersion unit.

Diameter of support rod	48 mm
Dimensions (W x D)	460 x 530
Height	1.200 mm
Stroke	500 - 1.000 mm

Accessories (Page):

SI 400 Safety switch (39),
SI 474 Fixing device (39)

Ident. No.

1643000



R 472 Floor stand

Mobile floor stand, specially designed for the overhead stirrer RW 47 D; can be adapted for use with other instruments.

Diameter of support rod	80 x 80 mm
Height	2.020 mm
Stroke	980 - 1.860 mm

Accessories (Page):

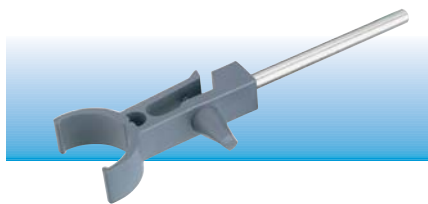
SI 400 Safety switch (39),
SI 472 Fixing device (39)

Ident. No.

0738700

IKA® Mechanical accessories

Fixing elements



R 200 Clamp

For fastening the T 10 basic to the stand ST 104 (included with delivery of T 10 basic).

Diameter / length of extension arm	8 mm / 130 mm
------------------------------------	---------------

Ident. No.

3372000

Available 2. quarter 2005

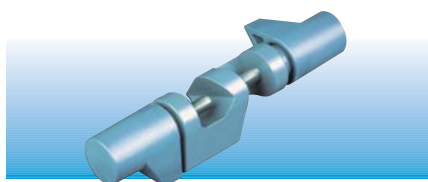


H 44 Boss head clamp

Clamping range - stand	10 - 11 mm
Clamping range - extension arm	11 mm
Material	cast aluminium

Ident. No.

2437700

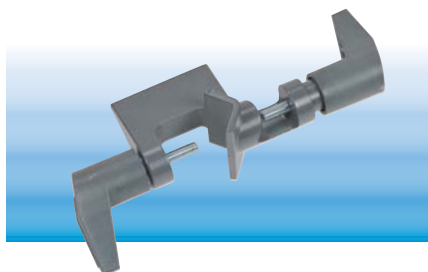


R 182 Boss head clamp

Clamping range - stand	6 - 16 mm
Clamping range - extension arm	6 - 16 mm
Material	cast aluminium

Ident. No.

2657700

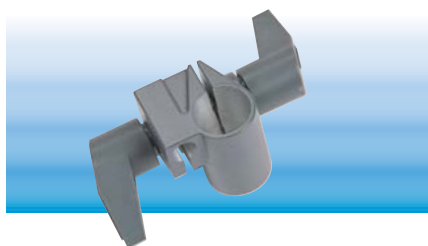


R 270 Boss head clamp

Clamping range - stand	25 - 36 mm
Clamping range - extension arm	5 - 21 mm
Material	cast aluminium

Ident. No.

2657800



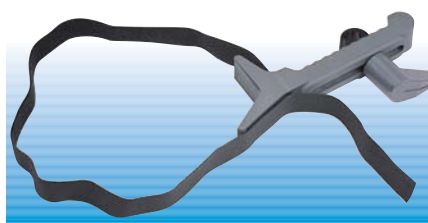
R 271 Boss head clamp

Specialized clamp with openings for the stands R 2722 and R 2723 as well as extensions with Ø 16 mm.

Clamping range - stand	34 mm
Clamping range - extension arm	16 mm
Material	cast aluminium

Ident. No.

2664000



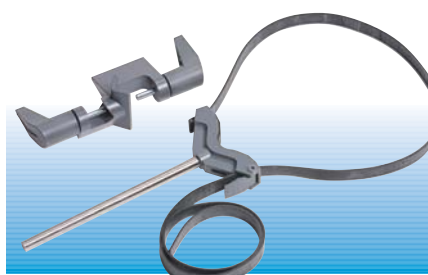
RH 3 Strap clamp

For securing vessels against walls or for synchronized rotation during stirring or dispersing.

For stand diameter	8 - 16 mm
For vessel diameter	40 - 300 mm

Ident. No.

3008600



RH 5 Strap clamp

For securing vessels against walls or for synchronized rotation during stirring or dispersing, incl. boss head clamp R 270.

For stand diameter	25 - 36 mm
For vessel diameter	40 - 300 mm

Ident. No.

3159000

IKA® Electronic accessories

Temperature measuring instrument

DTM 12 IKATRON® Digital temperature measuring instrument

For measuring temperatures between
-200 °C up to +400 °C.

- LED display
- Analog output (1 °C = 1mV)
- Almemo interface for PC connection
- Sensor connection: Almemo



Sensor	PT 100
Measuring range	-200 bis 400 °C
Temperature display	digital
Resolution	0,01 K
Interface	Almemo, analog
Dimensions (W x D x H)	125 x 150 x 70 mm
Weight	1,1 kg
Permissible ambient temperature	0 - 50 °C
Permissible humidity	80 %
Protection class acc. to DIN EN 60529	IP 50

Accessories (Page):

Temperature sensors (109):

PT 100.23, PT 100.24, PT 100.25, PT 100.27,
DTM 12.10 Data cable (109), labworldsoft® (131)

Ident. No.

3113200 90 - 240 V 50/60 Hz

Temperature sensors

PT 100.23

Standard sensor for a wide range of
laboratory tasks.

PT 100.24

Protective pipe, glass-coated. For use in
acid and alkaline solutions.

PT 100.25

E.g. for use with IKA® laboratory reactors in
combination with sensor receptacle
LR 2000.60 (page 125).

PT 100.27

With screw joint. Specially designed for
IKA® laboratory kneader HKD-T 0.6 D and
measuring kneader MKD 0,6 - H 60.

Material of protective pipe	stainl. steel (AISI 316L)
Diameter	3 mm
Length	250 mm
Material of protective pipe	borosilicate glass
Diameter	8 mm
Length	250 mm
Material of protective pipe	stainl. steel (AISI 316L)
Diameter	6 mm
Length	255 mm
Material of protective pipe	stainl. steel (AISI 316L)
Diameter	3 mm
Length	135 mm

Ident. No.

3122100 PT 100.23

3122200 PT 100.24

3122300 PT 100.25

3122500 PT 100.27

DTM 12.10 Data cable, 9 pins (F)

Data cable with RS 232 interface to connect the
DTM 12 with a PC.

PC 1.2 Adapter, 25 pins

9 pins (F) to 25 pins (F).



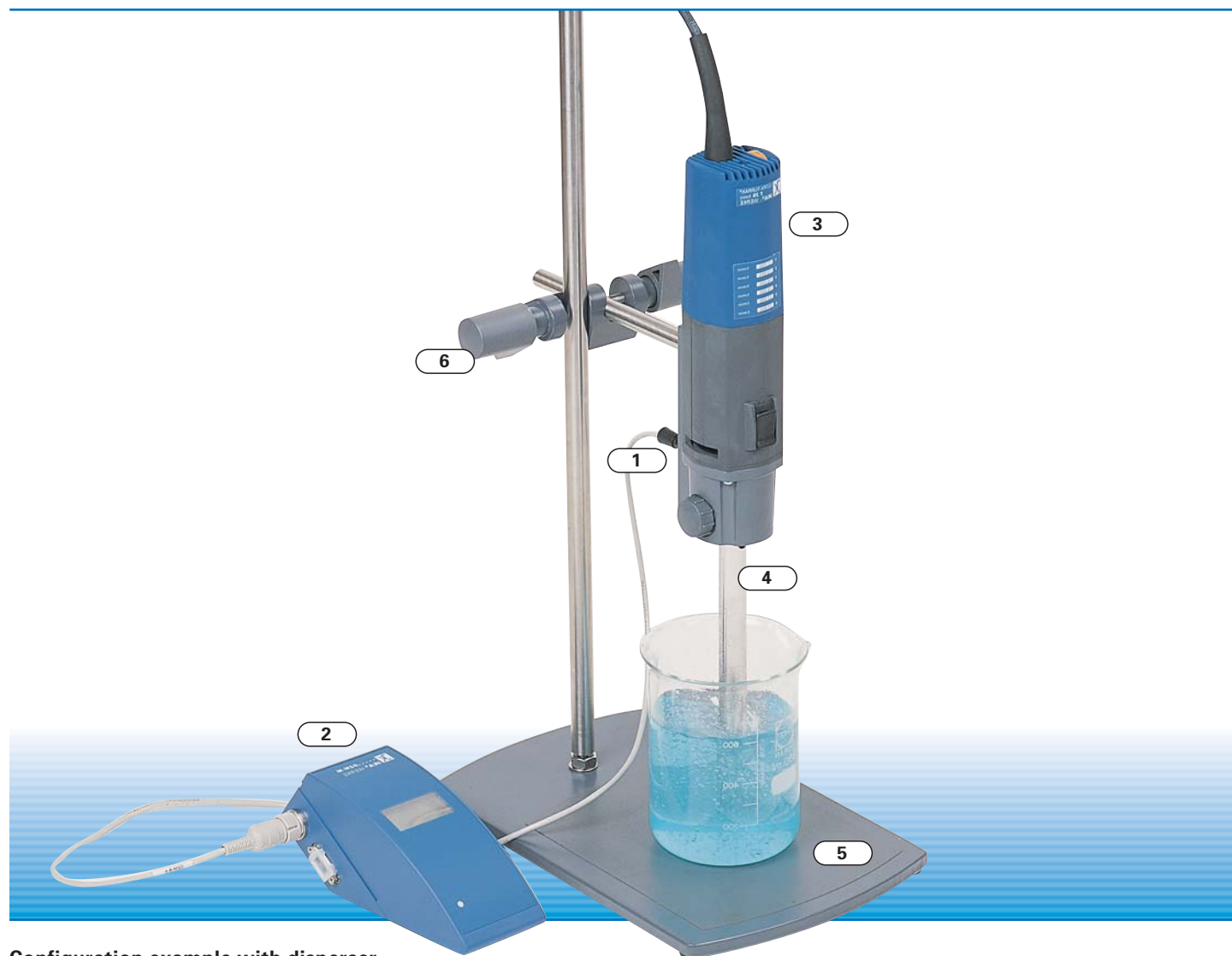
Ident. No.

3127800 DTM 12.10

2616800 PC 1.2

IKA® Electronic accessories

Revolution counter (optical)



Configuration example with disperser

DZM control o. Revolution counter

With the opto-electronic sensor DZM-S.o the speed is measured and displayed on the monitor DZM-M. A RS 232 interface allows the speed to be recorded on a PC (optional).

Consisting of:

1

DZM-S.o

Opto-electronic sensor, page 111.

2

DZM-M

Monitor with RS 232 interface, page 111.

Power pack
without fig.

3

T 25 basic ULTRA-TURRAX®

Dispersing instrument, page 59.

4

S 25 N - 18 G

Dispersing element for quantities between 10 - 1.500 ml, page 63.

5

R 1827

Plate stand, page 106.

6

R 182

Boss head clamp, page 108.

IKA® Electronic accessories

Revolution counter (optical)



DZM control.o Revolution counter
Connection of an opto-electronic sensor enables measurement of the speed of rotating shafts from 0 - 50.000 rpm. The signals received are displayed on the monitor. This enables all **IKA®** overhead stirrers and dispersing instruments to be retrofitted with a speed display, thereby allowing reproducible work. A RS 232 interface allows the values to be recorded digital on a PC. An analog output signal for a recorder is also available. The monitor can be used as a table-top device or mounted on a stand rod.

Sensor	DZM-S.o
Speed range	0 - 50.000 min ⁻¹
Temperature co-efficient	0,005 %/°C
Measurement error of measured value	0,4 % = 1 Digit
Analog output (0 - 4.000 rpm)	1 mV
(> 4.000 rpm)	0,1 mV
Interface	RS 232
Dimensions (W x D x H)	70 x 180 x 75 mm
Weight	0,2 kg
Permissible ambient temperature	5 - 40 °C
Permissible humidity	80 %
Protection class acc. to DIN EN 60529	IP 42

Accessories (Page):
DZM-K Extension cable (111),
labworldsoft® (131), PC 1.5 Cable (136)

Included with delivery (Page):
DZM-M Monitor (111), DZM-S.o Sensor, optical (111),
Power pack

Ident. No.	Ident. No.
8014200	8014201
230 V 50/60 Hz	115 V 50/60 Hz



DZM-M Monitor
Spare monitor for the revolution counter DZM control.o.

Ident. No.
2808700



DZM-S.o Sensor, optical
Spare sensor for DZM control.o

Length	1 m
--------	-----

Ident. No.
2809300



DZM-K Extension cable
Enables the separation of monitor DZM.M and sensor DZM-S.o.

Length	1 m
Max. distance between monitor / sensor	2 m

Ident. No.
2808900

IKA® Electronic accessories

Vacuum controller



VC 2 IKAVAC® Vacuum controller

Used to create a controlled partial vacuum in laboratory applications. Typical tasks are the evacuation of desiccators, vacuum apparatus, etc. Solvent recovery rates of up to 99% are possible if rotary evaporators are used.

- Microprocessor-controlled
- Minimum solvent loss
- Considerable reductions in water costs
- Integrated air release valve
- Easy operation
- Space-saving stand-supported instrument
- Automatic setpoint correction
- Clearly organized membrane keyboard

Accessories (Page):

VC 1.1 Water jet pump (113)

MZ-2C Chemical diaphragm pump (113)

Power input	14 W
Control range	1 - 1.200 mbar
Setting accuracy	1 mbar
Display	digital (LED)
Dimensions (W x D x H)	150 x 57 x 85 mm
Weight	1,0 kg
Permissible ambient temperature	5 - 40 °C
Permissible humidity	80 %
Protection class acc. to DIN EN 60529	IP 50

Ident. No.		Ident. No.	
2300000	230 V 50/60 Hz	2300001	115 V 50/60 Hz

Accessories (magnetic / overhead stirrers)



AM 1 Analog module

For analog control of the magnetic stirrer RET control-visc *safety control* and the overhead stirrers EUROSTAR power control-visc with analog signals.

(0-1V, 0-20 mA, 4-20 mA)

Accessories (Page):

Analog cable (136): AK 2.3, AK 2.8

Ident. No.	
2829300	230 V 50/60 Hz

IKA® Electronic accessories

Vacuum pumps / valves

VC 1.1 Water jet pump

With valves for water jet and cooling water.
Automatic cooling water cut-off at end of distillation. Suitable for rotary evaporators.
Low water consumption.



Ident. No.

1980700

MZ-2C Chemical diaphragm pump

Oil-free chemical diaphragm pump.

- Materials in contact with the medium are chemically inert
- Fast amortization if used instead of water jet pumps
- Compact
- Quiet
- Long service life



Power	
input / output	210 / 180 W
Pumping capacity	1,7 m³/h
Attainable vacuum	10 mbar
Dimensions (W x D x H)	270 x 240 x 175 mm
Weight	10,5 kg
Permissible	
ambient temperature	5 - 40 °C
Permissible humidity	80 %
Protection class acc. to DIN EN 60529	IP 54

Accessories (Page):

VC 1.3 Magnetic solenoid valve (113),

VC 2.4 Pump control (113)

Ident. No.

1980500

230 V 50/60 Hz

1980501

115 V 50/60 Hz

VC 1.3 Magnetic solenoid valve

In conjunction with the vacuum controller VC 2, the solenoid valve can be used to regulate an in-house vacuum, the vacuum of uncontrolled water jet pumps or electrical vacuum pumps. The pump works constantly, the pipe is disconnected by the solenoid valve.



Ident. No.

2163500

VC 2.4 Pump control

The pump control is required when using the chemical diaphragm pump MZ-2C or other electrical vacuum pumps, in conjunction with the vacuum controller VC 2. The pump is disconnected from the mains and then reconnected.

Advantage over VC 1.3:

Due to the interruption of the pumps current lead, noise levels and energy costs are reduced.



Ident. No.

2439100

100 - 240 V 50/60 Hz

IKA® Electrolysis

Electrolysis system

Electrolysis system

Electrolysis



EN 500 Electrolysis system

With the EN 500 electrolysis system, the wet zone is separated from the control unit. For serial tests, up to 4 units can be connected to one power pack. The electrolysis system is applied in electrogravimetry and a great number of electrochemical experiments, e.g. hydrogen production, sea water electrolysis, etc.

Accessories (Page):
 EN 500 AP Operating place (114),
 EN 582 Platinum-iridium double net electrode (114)

Supply frequency	48 - 60 Hz
Output voltage, infinitely variable, adjustable with potentiometer	0 - 10 V
Residual ripple U eff	0,2 mV
Stability over 8 hours	0,02 %
Output current, infinitely variable, adjustable with potentiometer	0 - 10 A
Residual ripple I eff	0,5 mA
Stability over 8 hours	0,2 %
Dimensions power pack (W x D x H)	210 x 335 x 150 mm
Weight power pack	7,2 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %

Included with delivery:
 Power pack EN 500 E and 1 operating place EN 500 AP, without double net electrode

Ident. No.	Ident. No.
8016700	8016701
230 V 50/60 Hz	115 V 50/60 Hz



EN 500 AP Operating place
 Included in the electrolysis system EN 500. Up to 4 of these operating places can be connected to the power pack EN 500 E. The operating place comprises a stand with electrode holder, a safety locking ring for the electrode and the magnetic stirrer RH basic KT/C *safety control*, see page 12. Connecting cables included in delivery.

Accessories (Page):
 EN 582 Platinum-iridium double net electrode (114)

Dimensions (W x D x H)	200 x 316 x 530 mm
------------------------	--------------------

Ident. No.	Ident. No.
8016800	8016801
230 V 50/60 Hz	115 V 50/60 Hz



EN 582 Platinum-iridium double net electrode
 Fischer type.

Ident. No.
1753200

IKA® Laboratory reactors

Modular and expandable



Configuration example LR-2.ST

The systems LR-2.ST and LR 2000 are modularly expandable laboratory reactors, designed and planned for reproducing and optimizing chemical reaction processes as well as mixing, dispersing and homogenization processes at laboratory scales.

Some examples for these processes are:

- Manufacturing of cremes, lotions, emulsions, and liposome preparations in the pharmaceutical and cosmetic sector
- Mixing of solids such as calcium carbonate, talc, titanium oxide, etc. into liquid polymers
- Mixing of additives and solid polymer compounds into mineral oils
- Grinding and disintegrating of solids and fibers in liquids and polymers

The cost efficient LR-2.ST laboratory reactors are available for vacuum applications.

The laboratory reactors of the series LR 2000 P (pressure) and LR 2000 V (vacuum) are especially designed for the use in the pharmaceutical and cosmetic sector.

The systems can be adapted individually to a wide range of different applications and specific requirements. **IKA®** laboratory devices, e.g. temperature measuring instruments, laboratory stirrers and dispersing instruments, pumps and thermostats can be combined and controlled via PC using labworldsoft®. The torque measuring instruments VK 600 control VISCOCLICK® or VM 600 basic allow for evaluation of rheological properties.

The **IKA®** laboratory reactors features among others are:

- Modularly expandable to accommodate interchangeable instruments for various applications (3 x NS 29 and 2 x NS 14 ground joints)
- Single- and double-walled jacketed 2 liter vessels available made of borosilicate glass or stainless steel, with or without bottom discharge valve
- Sealing materials (FFPM) resist solvents and temperatures for applications up to 230 °C

IKA® Laboratory reactors

LR-2.ST system variants



LR-2.ST Version 1

1

LR-2.ST

Unit with reactor cover
(sealing material: FFPM)
consisting of:

- Stand system LR-2.ST
- LR-2.SI Safety disconnection
- EUROSTAR power control-visc P7
- LR 2000.11 Anchor stirrer with flow borings

2

LR-2000.1

Double-walled reactor vessel,
page 124.



LR-2.ST Version 2

1

LR-2.ST

Unit with reactor cover
(sealing material: FFPM)
consisting of:

- Stand system LR-2.ST
- LR-2.SI Safety disconnection
- EUROSTAR power control-visc P7
- LR 2000.11 Anchor stirrer with flow borings

2

LR-2000.1

Double-walled reactor vessel,
page 124.

3

VM 600 basic

Visco module, page 126.

IKA® Laboratory reactors

LR-2.ST system variants



LR-2.ST Version 3

- 1

LR-2.ST
Unit with reactor cover
(sealing material: FFPM)
consisting of:

 - Stand system LR-2.ST
 - LR-2.SI Safety disconnection
 - EUROSTAR power control-visc P7
 - LR 2000.11 Anchor stirrer
with flow borings
- 2

HBR 4 digital
Heating bath,
page 85.
- 3

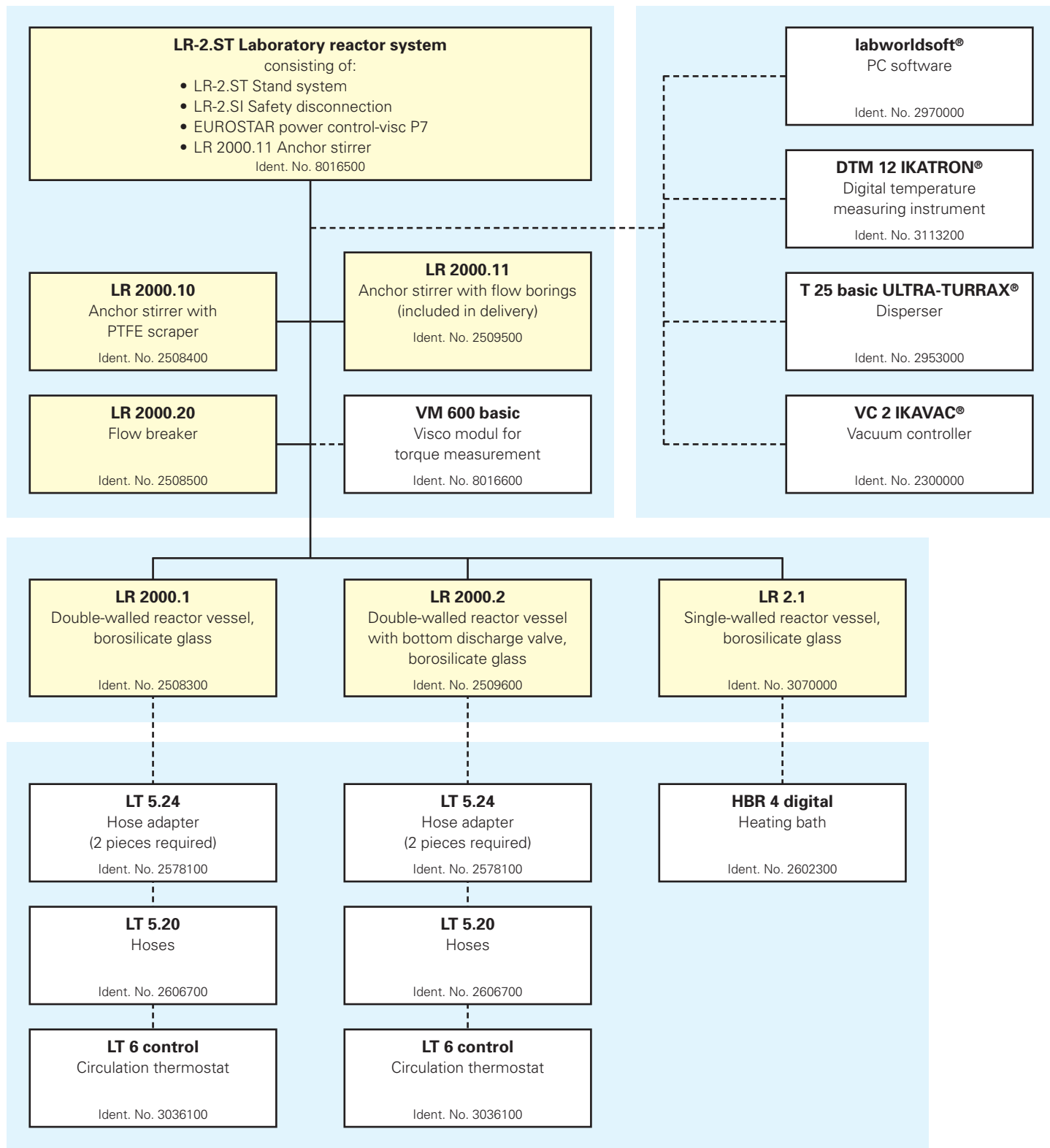
LR 2.1
Single walled reactor vessel,
page 124.

Min. volume (anchor stirrer)	500 ml
Min. volume (T 25 basic)	800 ml
Max. volume	2.000 ml
Max. temperature Kalrez	230 °C
Attainable vacuum	25 mbar
Max. viscosity	
Visco module VM 600 basic	150.000 mPas
Speed range	
(EUROSTAR power control - visc P7)	8 - 290 rpm
Height of telescopic stand	620 - 1.010 mm
Dimensions (W x D x H)	460 x 420 x 1.240 mm
Materials in contact with medium	stainl. steel (AISI 316L) Kalrez (FFPM) borosilicate glass 3.3
Safety accessory LR-2.SP Splinter protection (126)	

IKA® Laboratory reactors

LR-2.ST system variants

Configuration possibilities:

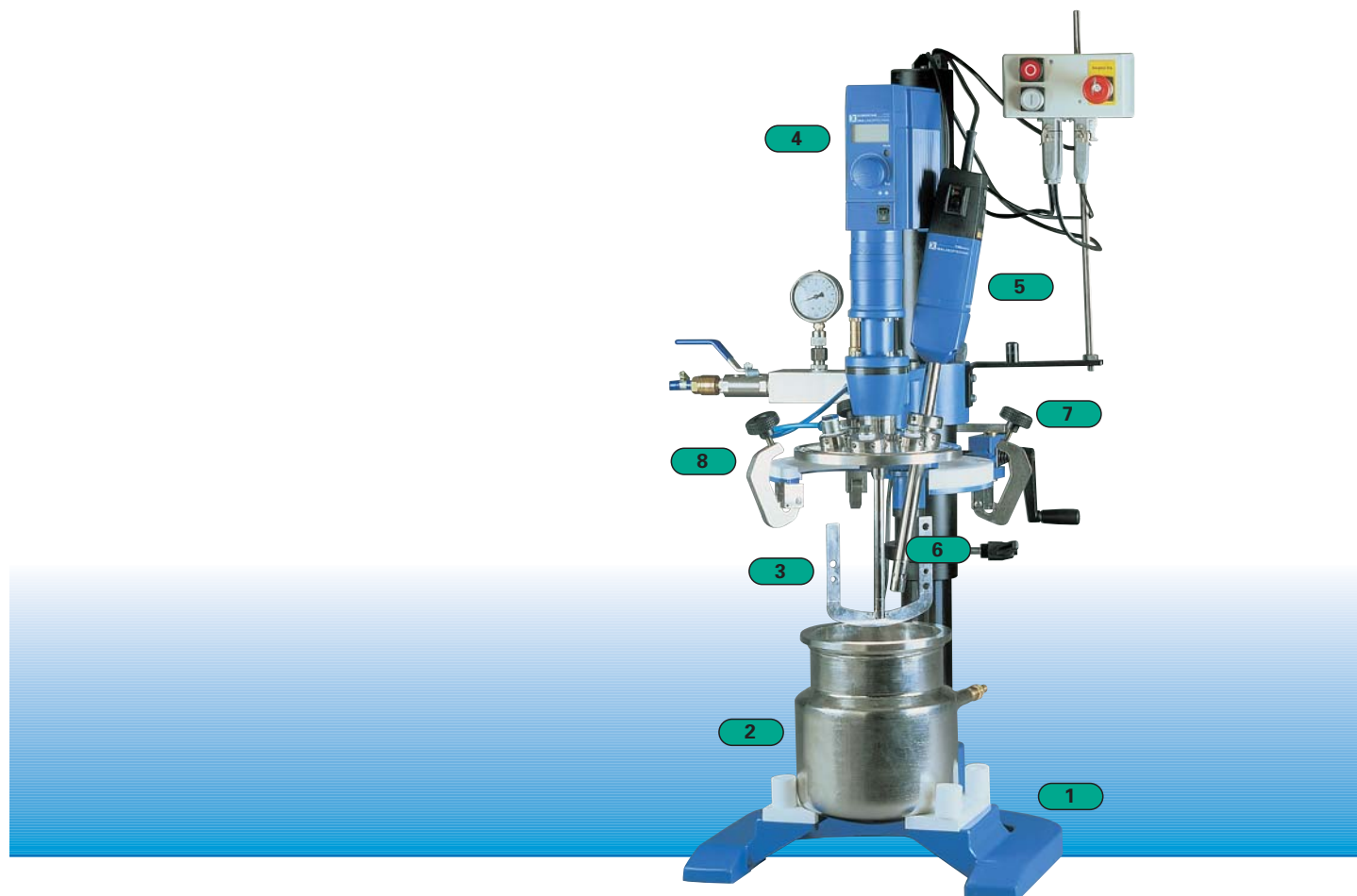


Please contact IKA® for further configuration recommendations for your specific applications.

Optional components
see pages 127/128

IKA® Laboratory reactors

LR 2000 P system variant (pressure)



System variant - pressure:

- 1** **LR 2000.75**
Stand for pressure variant.
- 2** **LR 2000.3**
Double-walled reactor vessel, stainless steel, page 124.
- 3** **LR 2000.11**
Anchor stirrer with flow borings, page 123.
- 4** **EUROSTAR power control-visc P7**
Overhead stirrer, page 33.
- 5** **T 25 basic**
Disperser, page 59.
- 6** **S 25 KV - 18 G**
Appropriate dispersing element, page 63.

- 7** **LR 2000.40**
Shaft receptacle, page 125.

- 8** **LR 2000.85**
Reactor cover, page 123.

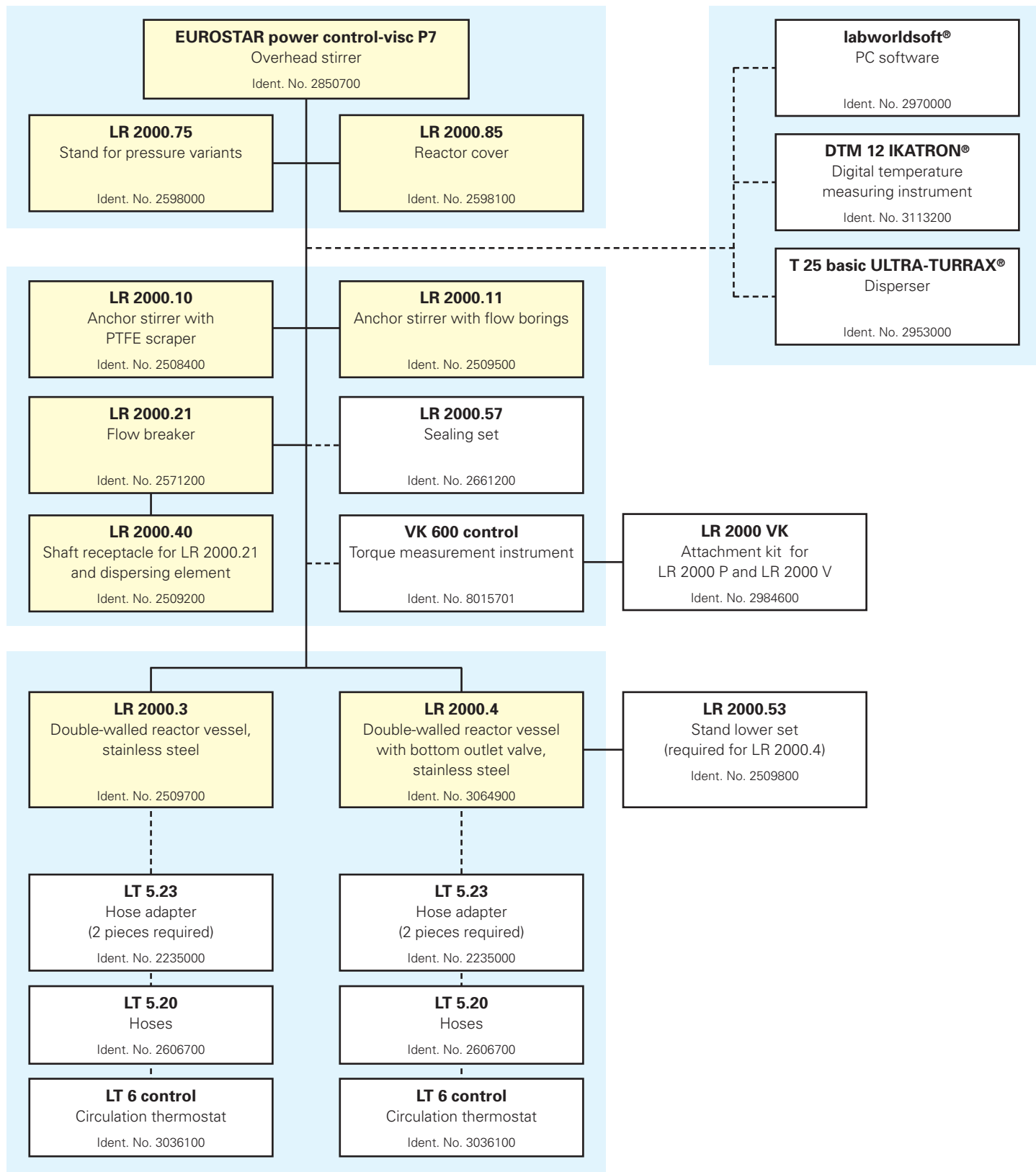
Min. volume (anchor stirrer)	500 ml
Min. volume (T 25 basic)	800 ml
Max. volume	2.000 ml
Max. temperature FFPM	230 °C
Attainable pressure	6 bar
Max. viscosity	150.000 mPas
Speed range (EUROSTAR power control-visc P7)	8 - 290 rpm
Lift of telescopic stand	260 mm
Dimensions (W x D x H)	500 x 500 x 1.350 mm
Weight of basic device	30 kg
Materials in contact with medium	stainl. steel (AISI 316L) Kalrez (FFPM)

Please contact **IKA®** or your local dealer for a detailed quotation.

IKA® Laboratory reactors

LR 2000 P system variants (pressure)

Configuration possibilities:



Please contact IKA® for further configuration recommendations for your specific applications.

Optional components
see pages 127/128

IKA® Laboratory reactors

LR 2000 V system variant (vacuum)



System variant - vacuum:

- 1** **LR 2000.70**
Stand for vacuum variant.
- 2** **LR 2000.1**
Reactor vessel,
page 124.
- 3** **LR 2000.11**
Anchor stirrer with flow borings,
page 123.
- 4** **EUROSTAR power control-visc P7**
Overhead stirrer,
page 33.
- 5** **T 25 basic**
Disperser,
page 59.
- 6** **S 25 KV - 18 G**
Appropriate dispersing element,
page 63.

- 7** **LR 2000.40**
Shaft receptacle,
page 125.
- 8** **LR 2000.80**
Reactor cover,
page 123.

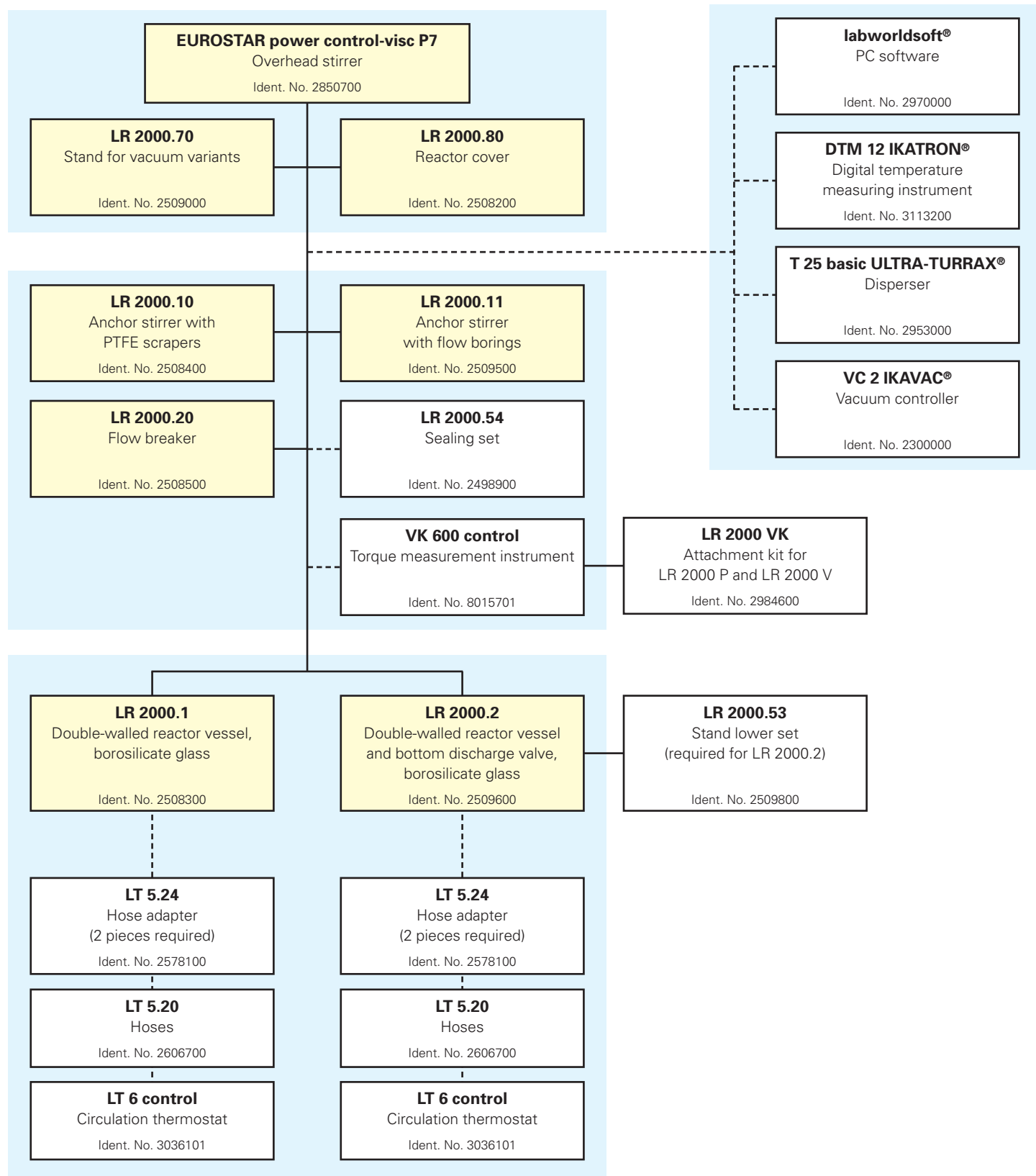
Min. volume (anchor stirrer)	500 ml
Min. volume (T 25 basic)	800 ml
Max. volume	2.000 ml
Max. temperature, FFPM	230 °C
Attainable vacuum	25 mbar
Max. viscosity	150.000 mPas
Speed range (EUROSTAR power control-visc P7)	8 - 290 rpm
Lift of telescopic stand	260 mm
Dimensions (W x D x H)	500 x 500 x 1.350 mm
Weight of basic device	30 kg
Materials in contact with medium	stainl. steel (AISI 316L) Kalrez (FFPM) borosilicate glass 3.3

Please contact **IKA®** or your local dealer for a detailed quotation.

IKA® Laboratory reactors

LR 2000 V system variants (vacuum)

Configuration possibilities:



Please contact IKA® for further configuration recommendations
for your specific application.

Optional components
see pages 127/128

IKA® Laboratory reactors

Laboratory reactors accessories



LR 2000.80 Reactor cover
For LR 2000 V (stand LR 2000.70).
Incl. 3 x NS 29 and 2 x NS 14/23
ground joints.

Accessories (Page):
LR 2000.54 Sealing set (123)

**LR 2000.85 Reactor cover
(without fig.)**
For LR 2000 P (stand LR 2000.75).

Accessories (Page):
LR 2000.57 Sealing set (123)

LR 2000.54 Sealing set
Spare. For LR 2000 V.

LR 2000.57 Sealing set
Spare. For LR 2000 P.

Material of threaded seal	FFPM
---------------------------	------

Material of threaded seal	FFPM
---------------------------	------

Ident. No.	
2508200	LR 2000.80
2598100	LR 2000.85
2498900	LR 2000.54
2661200	LR 2000.57



LR 2000.10 Anchor stirrer
With PTFE scraper, for all laboratory
reactors.

LR 2000.11 Anchor stirrer
With flow borings, for all laboratory
reactors.

LR 2000.20 Flow breaker
Only for LR 2000 V and LR-2.ST.

LR 2000.21 Flow breaker
Only for LR 2000 P in connection with
LR 2000.40 (page 125).

Material	stainl. steel (AISI 316L), PTFE
----------	------------------------------------

Material	stainl. steel (AISI 316L),
----------	----------------------------

Material	stainl. steel (AISI 316L),
Installation length	180 mm

Material	stainl. steel (AISI 316L),
Installation length	180 mm

Ident. No.	
2508400	LR 2000.10
2509500	LR 2000.11
2508500	LR 2000.20
2571200	LR 2000.21

IKA® Laboratory reactors

Laboratory reactors accessories



LR 2.1 Reactor vessel (without fig.)

Single-walled, for LR-2.ST.

LR 2000.1 Reactor vessel

Double-walled, with quick-action connectors, for LR-2.ST and LR 2000 V.

LR 2000.2 Reactor vessel (without fig.)

Double-walled, with quick-action connectors and bottom discharge valve, for LR-2.ST and LR 2000 V.

Accessories (Page):

LR 2000.53 Stand lower set (124),

LT 5.24 Hose adapter

(2 pieces required) (90),

LT 5.20 Hose (90)

Useful volume	2.000 ml
Material	borosilicate glass 3.3
Max. temperature	230 °C

Ident. No.	
2508300	LR 2000.1
3070000	LR 2.1
2509600	LR 2000.2



LR 2000.3 Reactor vessel

Double-walled for LR 2000 P (Stand LR 2000.75).

LR 2000.4 Reactor vessel (without fig.)

Double-walled with bottom outlet valve, for LR 2000 P (Stand LR 2000.75).

Accessories (Page):

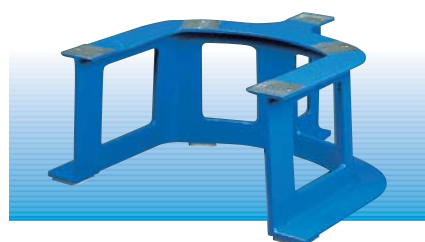
LR 2000.53 Stand lower set (124),

LT 5.23 Hose adapter (2 pieces required) (90),

LT 5.20 Hose (90)

Useful volume	2.000 ml
Material	stainl. steel (AISI 316L)
Max. temperature	230 °C

Ident. No.	
2509700	LR 2000.3
3064900	LR 2000.4



LR 2000.53 Stand lower set

To raise the laboratory reactor vessels LR 2000.2 and LR 2000.4. Only in connection with LR 2000.70 and LR 2000.75.

Ident. No.	
2509800	

IKA® Laboratory reactors

Laboratory reactors accessories



LR 2000.40 Shaft receptacle

To install the dispersing elements S 25 KV (page 63) and the flow breaker LR 2000.21 (page 123).

Material of seal	FFPM
------------------	------

Ident. No.	2509200
------------	---------



LR 2000.60 Sensor receptacle

To install the temperature sensors PT 100.25 (page 109) and PT 100.5 (page 90).

Material of seal	FFPM
------------------	------

Ident. No.	2509300
------------	---------

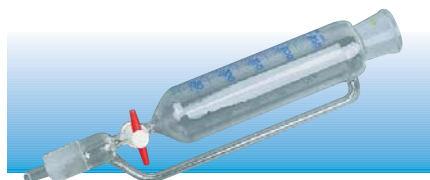


LR 2000.30 Vacuum gauge

Only for LR 2000 V.
Alternative to the vacuum controller VC 2 IKAVAC® (page 112).

Material of seal	FFPM
Measuring range	0 - 1.020 mbar
Measuring accuracy acc. to DIN 16005	class 1
Max. temperature	60 °C

Ident. No.	2509400
------------	---------



LR 2000.90 Drip funnel

For dosing, with ground joint NS 29.
Only for LR-2.ST and LR 2000 V.

Volume	250 ml
--------	--------

Ident. No.	2277000
------------	---------

LR 2000.52 Tool set

Spare. Included in the packages of the laboratory reactors.

Ident. No.	2508800
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IKA® Laboratory reactors

Laboratory reactors accessories

LR 2000.VK Attachment kit

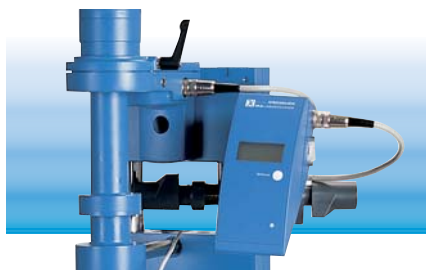
For LR 2000 V and LR 2000 P.

Accessories (Page):

Torque measurement instrument
VK 600 control VISCOKLICK® (129)

Ident. No.

2984600



VM 600 basic visco module

Torque measurement instrument for
LR-2.ST, consisting of adapter kit and
VK 600 control VISCOKLICK® (page 129).

Ident. No.

8016600

LR-2.SP Splinter protection

Prevents potential injuries caused by broken
glass and burns as a result of accidentally
touching the hot reactor vessel.

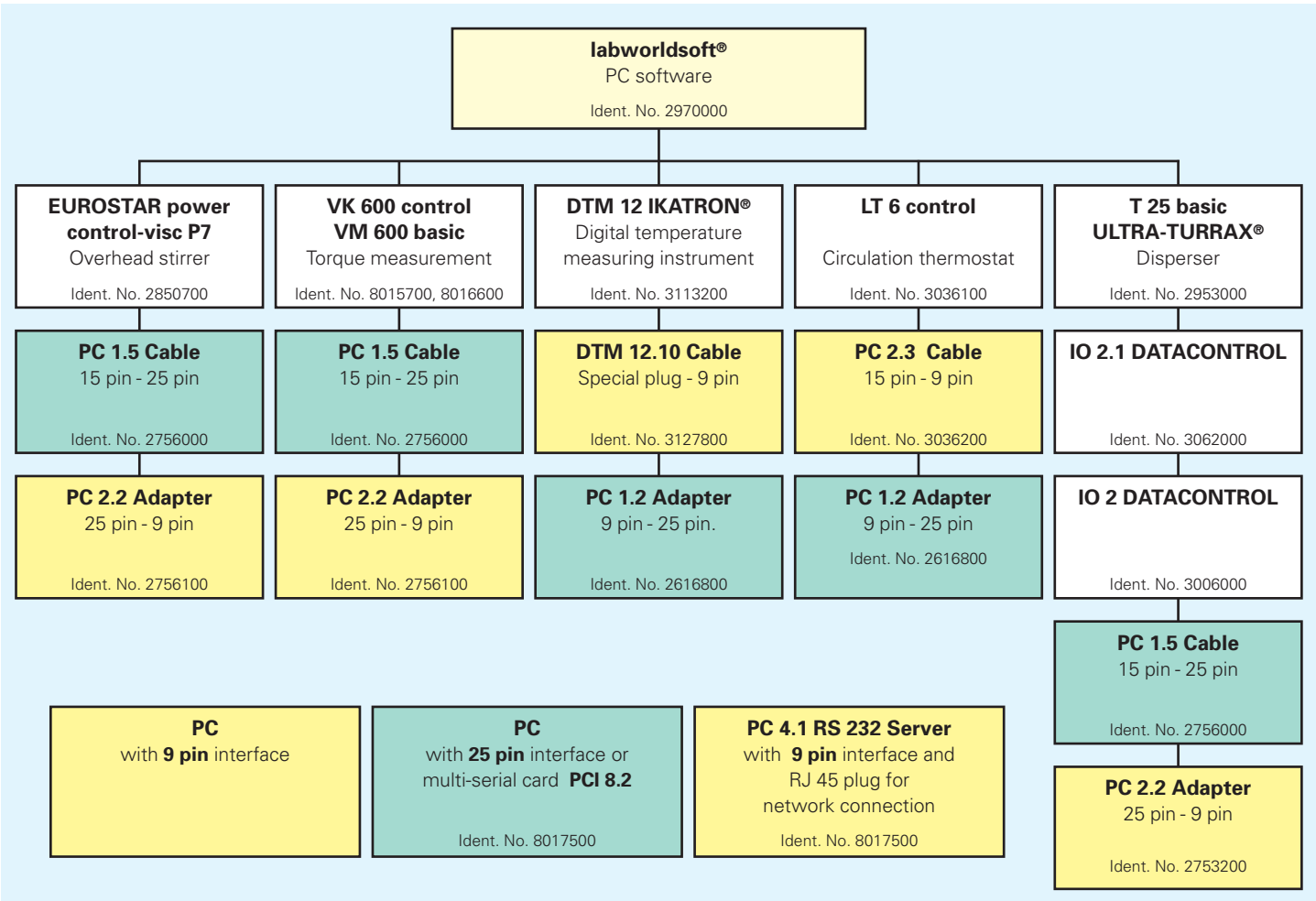
Ident. No.

3326400

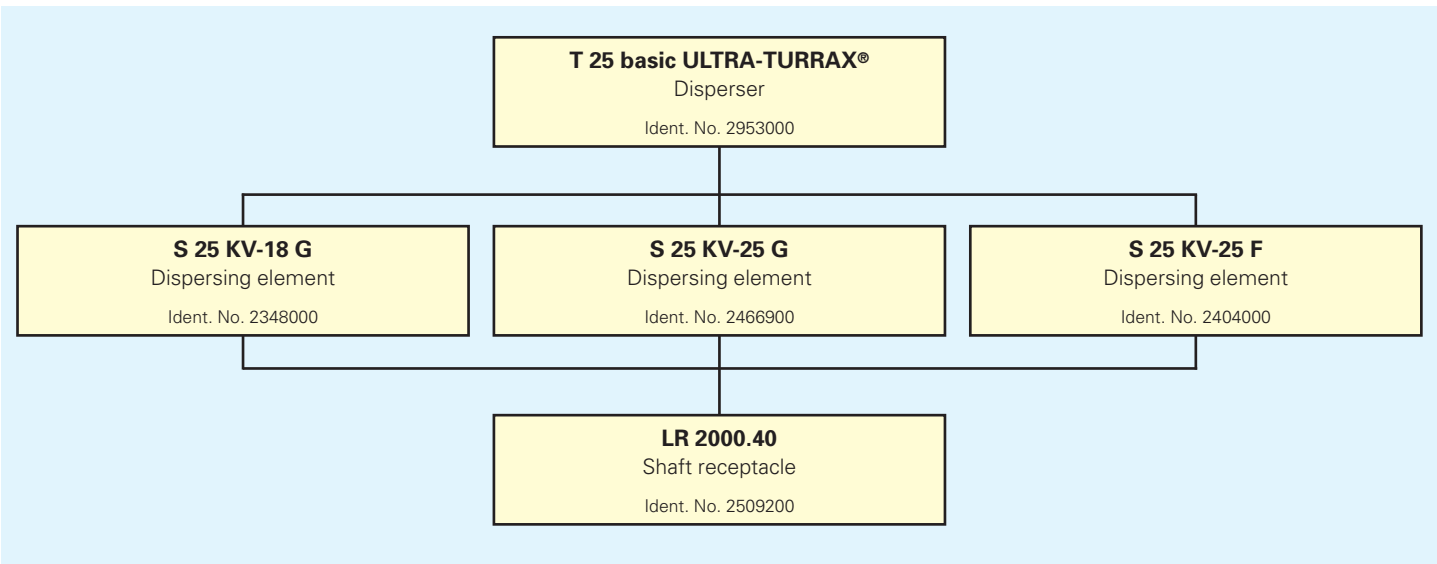
IKA® Laboratory reactors

Optional components

Data processing: software, cable and adapters (see also page 137 - 139)



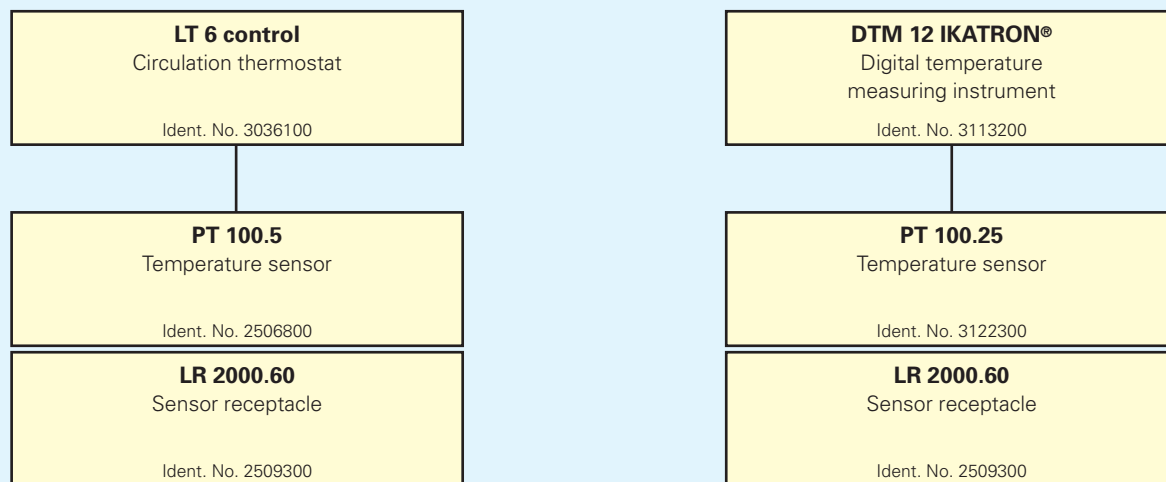
Dispersing / Homogenizing



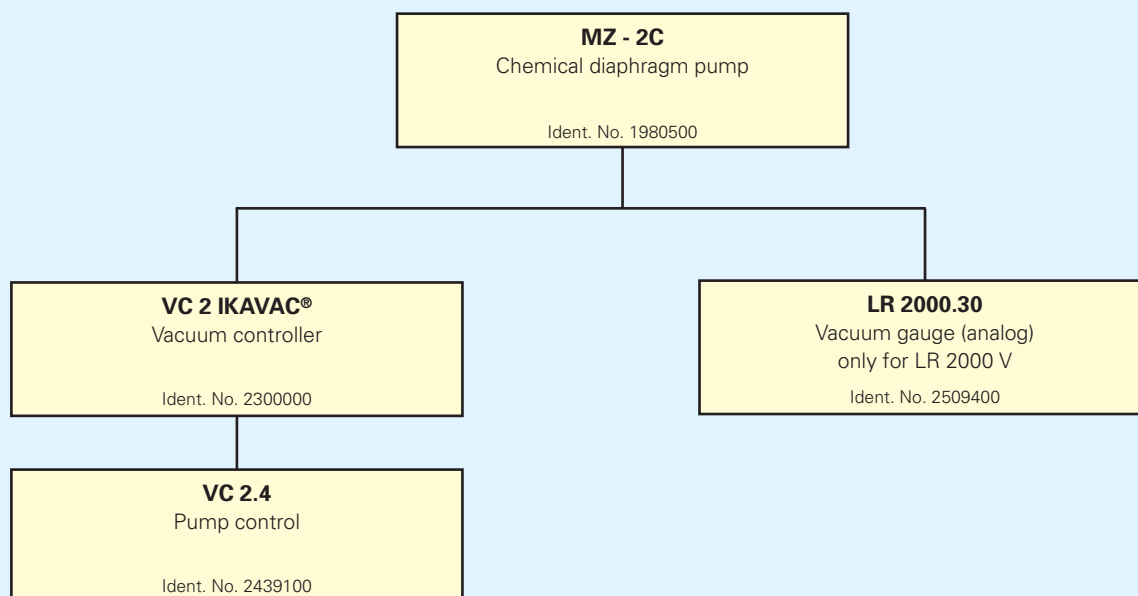
IKA® Laboratory reactors

Optional components

Temperature control resp. temperature measurement



Vacuum



IKA® Rheology

Torque measurement instrument



VK 600 control VISCOKLICK® Torque measurement instrument

Rheological material properties such as viscosity, flow and deformation behavior are among the most important characteristics of any material:

- They determine the application-technical manufacturing process of a product
- The structural composition of a material can be established from its viscosity behavior
- The sequence of chemical reactions can be documented

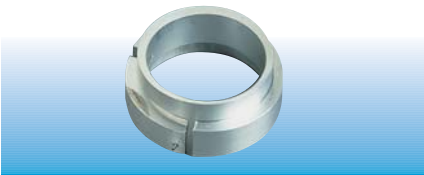
The VK 600 control can be combined with all **IKA®** EUROSTAR overhead stirrers. The appropriate stirrer is “clicked” into the VK 600 control.

During stirring, a force transducer determines a reaction force at the stirring shaft proportional to the torque.

- Simple assembly
- RS 232 interface and analog output
- PC-controllable with labworldsoft®
- Measuring system is overload-proof
- Offset correction to eliminate errors

Accessories (Page):
VK 60/01 Adapter (129),
labworldsoft® (131)

Measuring range	0 - 600 Ncm
Display	digital
Flange Ø	60 / 62 mm
Flange height (min.)	≥ 10 mm
Linearity of Display:	
0 - 60 Ncm	± 0,5
60 - 600 Ncm	± 1,0
Reproducibility:	
Static	± 0,1 Ncm
Dynamic	± 0,5 Ncm



VK 60/01 Adapter
For adaption of **IKA®** overhead stirrers
RW 20.n and RW 20 DZM.n.

Ident. No.		Ident. No.
8015700	230 V 50/60 Hz	8015701 115 V 50/60 Hz

Ident. No.
2854100

IKA® Rheology

Measuring kneader



MKD 0,6 - H 60 High-performance measuring kneader

For processing non-flowable, highly viscous media. The torque is measured at the kneading blade by means of an integrated sensor. The torque characteristic can be stored and graphically displayed online using the software labworldsoft® and the data converter DC 2 DATACONTROL. Uniform mixing is based on intensive processing by means of wide-bladed kneading elements. The kneading medium is moved within the trough both horizontally and vertically. Additional media quantities may be added during the kneading operation.

- Trough can be easily removed
- Kneading blades can be easily removed
- Narrow gap between blades and trough ensures efficient wipe-off
- Standard version equipped for vacuum operation
- Trough cover with inspection glass and safety grid
- Double-walled kneading chamber to cool or heat the medium
- Medium temperature may be measured directly in the rear kneading blade

Shape of kneading blade	duplex
Trough	
Useful volume min. / max.	100 / 300 ml
Total volume	600 ml
Attainable vacuum	50 mbar
Trough base for heating up to	210 °C
Bore hole for accommodating temperature sensor PT 100.27	yes
Materials in contact with medium	stainl. steel (AISI 316 Cb)

Drive

Motor rating	
input / output	230 / 160 W
Motor type	direct current
Motor protection	thermal contact
Nominal torque	22 Nm
Speed of front kneading blades	1 - 64 rpm
Speed of rear kneading blades	0,5 - 32 rpm
Safety device	cover contact

Measuring system

Torque measuring range	0 - 60 Nm
Measuring error final value	1,5 %
Overload	100 %
Torque display	digital
Analog output for torque	0 - 2 V
Analog output for speed	1 mV/rpm

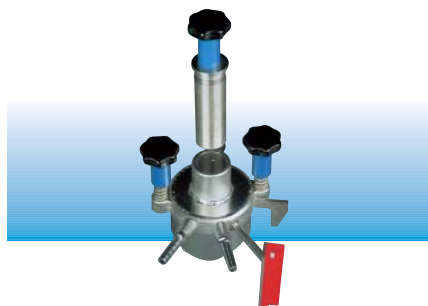
General data

Dimensions (W x D x H)	880 x 250 x 380 mm
Weight	27 kg
Permissible ambient temperature	5 - 40 °C
Permissible relative humidity	80 %
Protection class acc. to DIN EN 60529	IP 21

Accessories (Page):

HKD 06.2 Plunger (130), DTM 12 Digital temperature measuring instrument (109), LT 6 control Circulation thermostat (89), VC 2 IKAVAC® Vacuum controller (112), labworldsoft® (131), DC 2 DATACONTROL (135)

Ident. No.	Ident. No.
8800600	230 V 50/60 Hz 8800601
	115 V 50/60 Hz

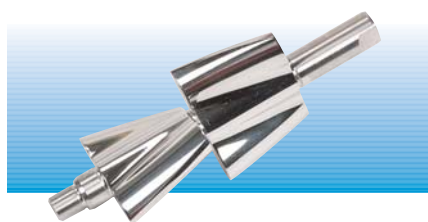


HKD 06.2 Plunger

Double-walled plunger seat, for heating and cooling, which presses down the kneading material by means of spring-action. This considerably improves heat conduction in the measuring kneader.

The central supply opening can be closed with a plunger. The HKD 06.2 plunger is not suitable for vacuum operation.

Ident. No.
2936000



HKD 06.10 Kneading blade

Special lined front kneading blade for viscous, elastic products to prevent dead zones. Alternative to the standard kneading blade.

Ident. No.
3134800



Manufactures with interface devices compatible to labworldsoft®:



Ahlborn
B. Braun Biotech
Martin Christ
Corning Inc.
Ehret
Eyela
Fluid
Fritsch
Gerhardt
GFL
Harvard
Heidolph
Hermle
Huber
IKA®
Ilmvac
Infors
Ismatec
Julabo
Kern
KNF
Knick
Labovisco
Lauda
Metrohm
Mettler-Toledo
MLT
PolyScience
Sartorius
Scaltec
Sigma
Telab
Thermo Haake
Thermo Neslab
Troemner
Vaccubrand
yellowline

labworldsoft®

Eases life in the laboratory. With this laboratory software, you can network up to 64 laboratory devices simultaneously via one PC. That makes the automation of your laboratory experiments and processes possible.

Measurements and processes may be run independently from one another. This helps to avoid long waits and you increase your productivity. The communication between PC and laboratory device is performed via the serial interface RS 232 (COM1 or COM2). With the help of plug-in cards and Ethernet RS 232 servers, up to 64 laboratory devices can be used simultaneously via one PC. All laboratory instruments can be controlled independently from each other and the measured values (speed, temperature, torque, pH, etc.) can be documented separately.

Networking, monitoring

With labworldsoft® you can network up to 64 laboratory instruments simultaneously via one PC. From sample preparation to synthesis, all steps of research and development in the lab can be automated using labworldsoft®.

Controlling

Desired temperature and speed sequences can be precisely controlled by means of freely selectable ramp functions. The ramp functions can be graphically generated, stored, and then loaded again at any time.

Recording, evaluating

labworldsoft® enables a fast and easy recording of many physical parameters which are required in the laboratory, such as pH, conductivity, temperature, torque, weight, pump rates etc.

Hard- and software requirements:

Pentium 90 with at least 16 MB RAM, and a mouse.
VGA display: monochrome with at least 16 levels of grey or color.
Windows 95/98/2000/NT/ME/XP...

Accessories (Page):

PCI 8.2 Plug-in card (135),
PC 4.1 RS 232 Server (135),
DC 2 DATACONTROL (135),
DA 2 DATACONTROL (135),
IO 2 DATACONTROL (136)

Exporting

Data recorded using labworldsoft® can be directly written to an Excel sheet or exported to any standard application at a later stage.

Storing / reproducing measured data

Do your test arrangements repeat themselves? With labworldsoft® all test arrangements can be stored. The stored data is available to reproduce the test, at a mouse click. The reproducibility of tests is warranted within the scope of ISO 9000 and within GLP.

Documentation

For documentation purposes, all measuring results as well as the measurement flowcharts can be printed or plotted according to GLP, ISO and QA.

**For more information and a download of your free trial version please visit
www.labworldsoft.de.**

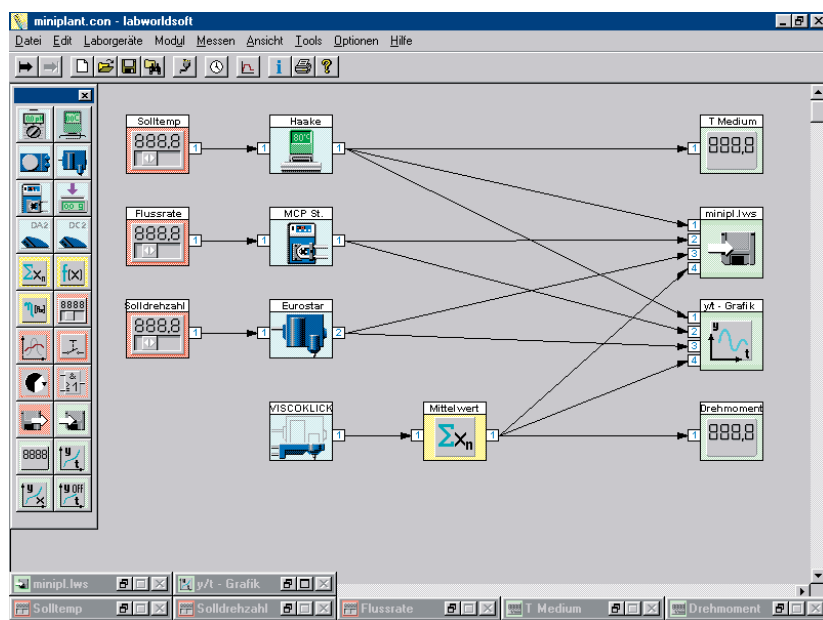


Figure 1: Configuration of a laboratory reactor with peripherals.

Presentation of results

The measuring results are directly displayed online or offline graphically with a selectable coordination system or numerically. Several numerical displays as well as four-channel displays are possible.

Storing a measuring configuration

The complete measuring configuration with all current parameters and the position of all opened windows can be stored. As a result, preconfigured flowcharts which are immediately ready for operation can be provided for the widest variety of tasks.

Fig. 1: Configuration example of a laboratory reactor with peripherals in operation. The speed of an overhead stirrer, the target temperature of a thermostat and a pump are controlled. Torque and temperature of the medium are recorded and are represented in a y/t-graphic (fig. 2). By means of a IO 2 DATACONTROL, additional external sensors or valves are possible.

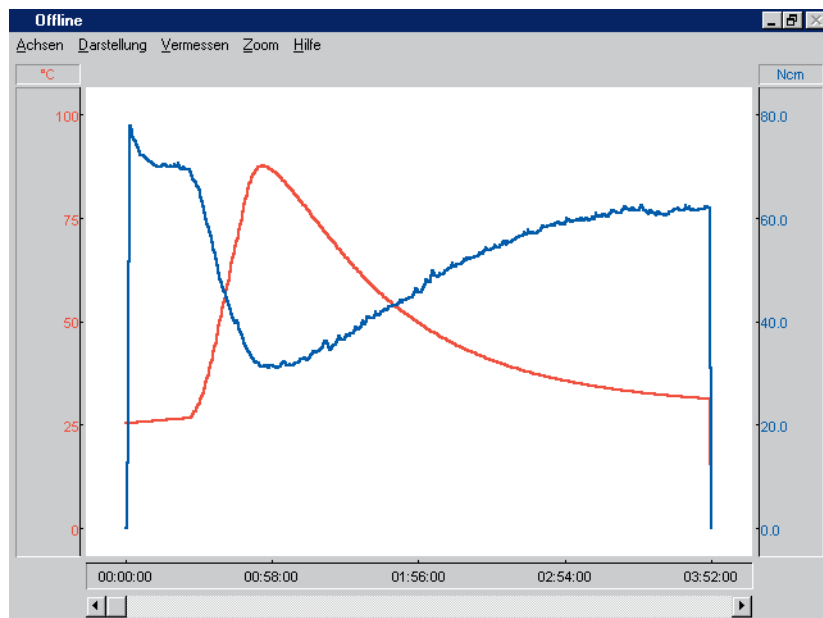
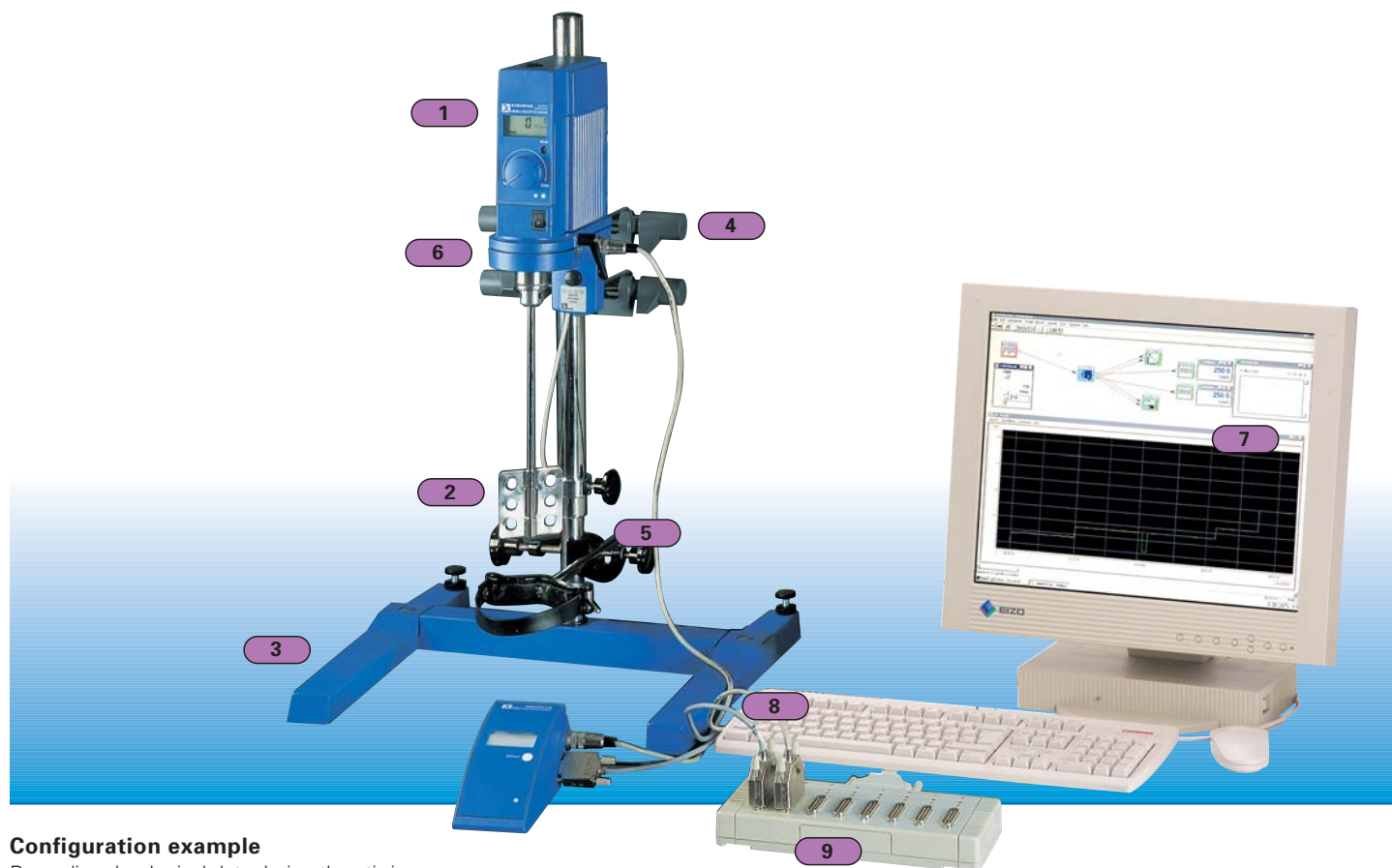


Figure 2: y/t-graphic: Shows torque and temperature changes in medium.



Configuration example

Recording rheological data during the stirring process

1 EUROSTAR power control-visc

Overhead stirrer,
page 30.

2 R 1373

Paddle stirrer,
page 36.

3 R 2723

Telescopic stand,
page 106.

4 R 270 (2x)

Boss head clamp,
page 108.

5 RH 5

Strap clamp for securing the vessel,
incl. boss head clamp R 270,
page 108.

6 VK 600 control VISCOKLICK®

Torque measuring instrument,
page 129.

7 labworldsoft®

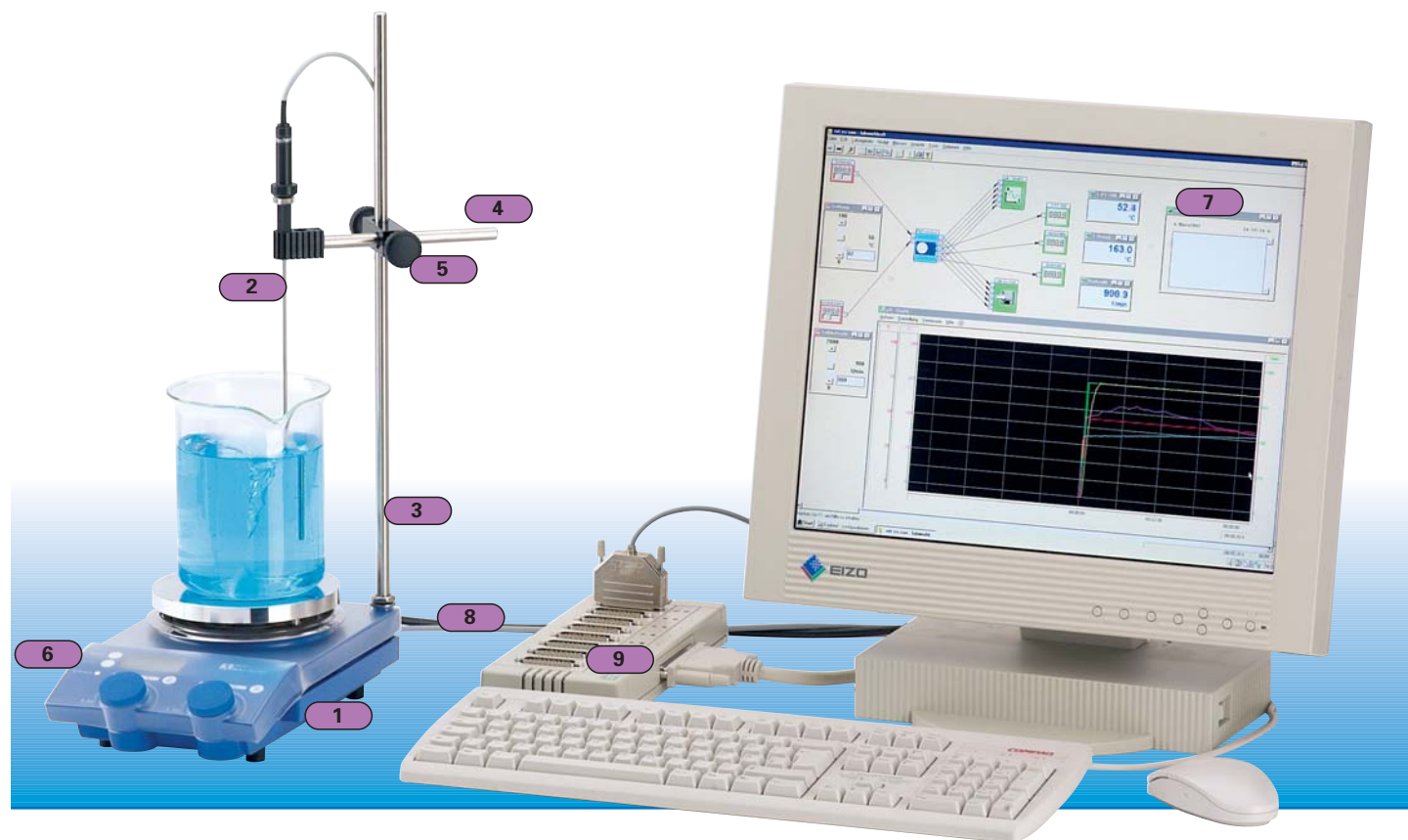
Laboratory software for
control and data collection,
page 131.

8 PC 1.5

Cable, page 136.

9 PCI 8.2

Plug-in card for mounting in the PC to
control up to 8 instruments,
page 135.



Configuration example

Controlling and recording temperature data during magnetic stirring with heating

- 1 RET control-visc safety control**
Safety magnetic stirrer with RS 232 interface, page 11.
Incl. protection cover H 99, page 24.

- 2 PT 100.50**
Temperature sensor for
RET control-visc, page 22.

- 3 H 16 V**
Support rod for attachment to
RET control-visc, page 23.

- 4 H 36**
Holding rod for casing of the
PT 100.50 sensor, page 23.

- 5 H 44**
Boss head clamp, page 23.

- 6 H 99**
Protection cover included with the
RET control-visc,
page 24.

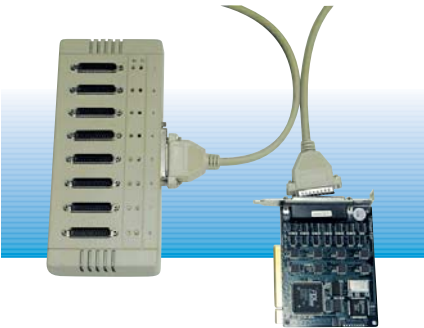
- 7 labworldsoft®**
Laboratory software for
control and data collection,
page 131.

- 8 PC 1.5**
Cable, page 136.

- 9 PCI 8.2**
Plug-in card for mounting in the PC to
control up to 8 instruments,
page 135.

IKA® Software

labworldsoft® accessories



PCI 8.2 Plug-in card
For mounting in the PC to connect up to 8 instruments simultaneously. Plug-in cards for up to 64 instruments available on request.

Ident. No. _____
8017500



PC 4.1 RS 232 Server
Up to 4 lab units can be controlled through the ethernet with the PC 4.1 RS 232 server. The server supports 4 RS 232 ports with a 10/100 mbps ethernet interface by TCP/IP. The server can be set-up through the ethernet and works as a transparent serial COM-Port without restrictions of platform and distance. Server for connection of up to 64 instruments available on request.

Ident. No. _____
3192000



DC 2 DATACONTROL
For PC documentation of analog signals from up to 4 instruments.

Accessories (Page):
PC 1.5 Cable (136),
PC 2.2 Adapter (136),
AK 2.4 Analog cable (136)

Voltage input	0 - 1 / 0 - 5 / 0 - 10 V
Current input	0 - 20 / 4 - 20 mA

Ident. No. _____ Ident. No. _____
8015600 230 V 50/60 Hz **8015601** 115 V 50/60 Hz



DA 2 DATACONTROL
To convert digital signals into analog signals. In this manner, devices with analog control inputs (industrial controllers, temperature controllers) can be controlled using labworldsoft®.

Connection box included.

Accessories (Page):
PC 1.5 Cable (136),
PC 2.2 Adapter (136),
Analog cables (136): AK 2.6, AK 2.7

Voltage input	0 - 1 / 0 - 5 / 0 - 10 V
Current input	0 - 20 / 4 - 20 mA

Ident. No. _____ Ident. No. _____
8017200 230 V 50/60 Hz **8017201** 150 V 50/60 Hz

IKA® Software

labworldsoft® accessories



IO 2 DATACONTROL

With the IO 2 DATACONTROL, the power switch IO 2.1 DATACONTROL and labworldsoft® any device without any interface (heaters, solenoid valves, etc.) can be turned on and off based on an event (a threshold value being exceeded, controller output, etc).

This opens up numerous control possibilities in connection with the PID, relay and trigger modules of labworldsoft®. In addition, using the 8 inputs on the IO 2 DATACONTROL, signals from switches etc. can be recorded by labworldsoft®.

8 digital outputs (relay contact)	30 V / 1 A
8 digital inputs (Voltage)	0 - 24 V

Accessories (Page):

IO 2.1 DATACONTROL Power switch (136),
PC 1.5 Cable (136), PC 2.2 Adapter (136)

Ident. No.	Ident. No.
3006000	3006001
230 V 50/60 Hz	115 V 50/60 Hz



IO 2.1 DATACONTROL Power switch

Max. power of the connected devices	1,2 kW
Cable length	0,6 m
EURO connector (other connectors available on request)	

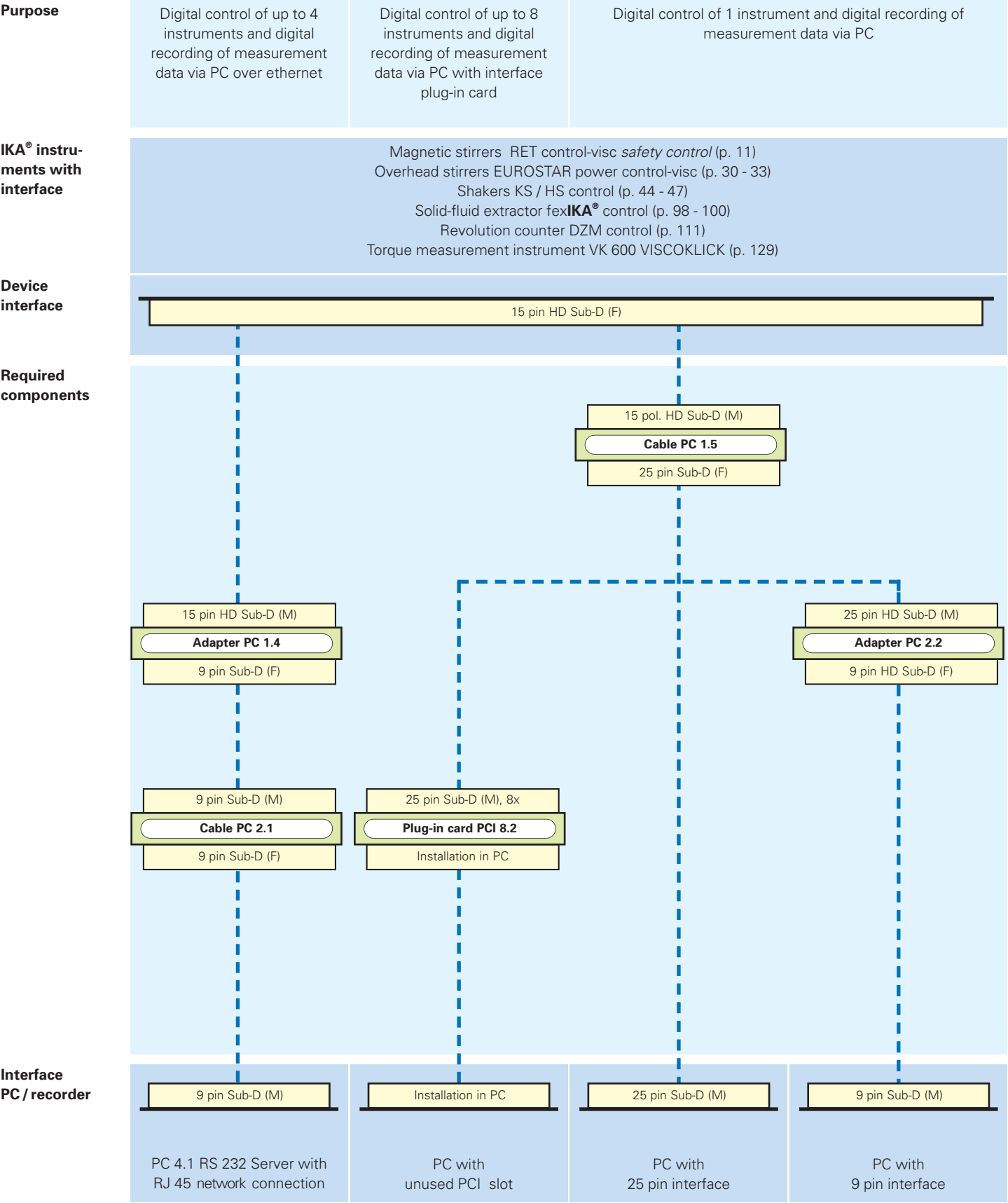
Ident. No.	Ident. No.
3062000	3062001
230 V 50/60 Hz	115 V 50/60 Hz

Accessories (cables and adapters)

		Ident. No.	Length
Cables	PC 1.1	2616700	3 m
	PC 1.5	2756000	2,5 m
	PC 2.1	2700700	5 m
	PC 2.3	3036200	3 m
	DTM 12.10	3127800	2,5 m
Adapters	PC 1.2	2616800	
	PC 1.4	2755900	
	PC 2.2	2753200	
	PC 5.1	2621500	
Analog cables	AK 2.1	2734300	2,5 m
	AK 2.2	2756100	2 m
	AK 2.3	2801200	2 m
	AK 2.4	2801300	2 m
	AK 2.5	2845800	2 m
	AK 2.6 (blue)	1719400	1,5 m
	AK 2.7 (red)	1719300	1,5 m
	AK 2.8	2907800	1,8 m

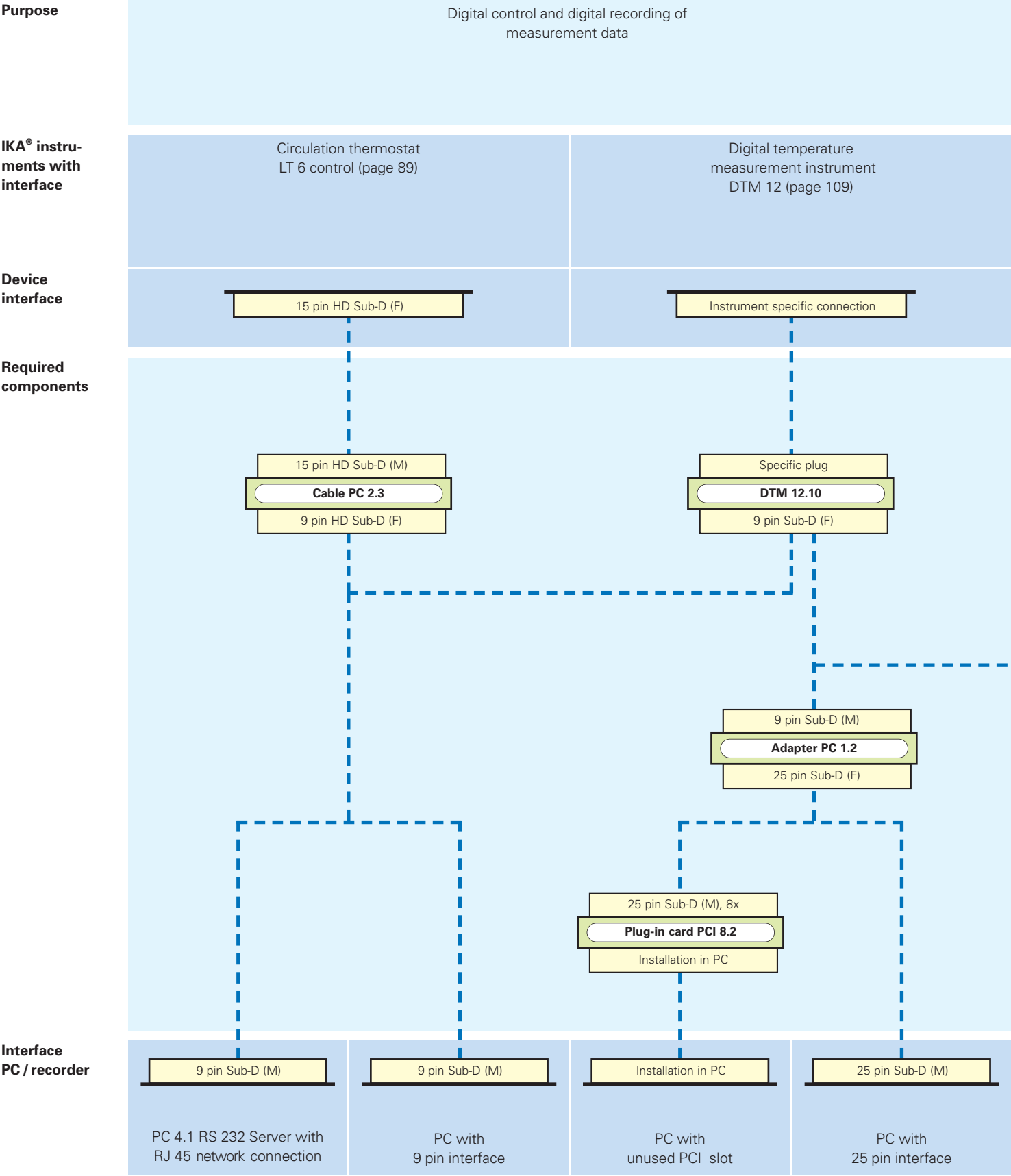
IKA® Software

Overview connection possibilities



IKA® Software

Overview connection possibilities

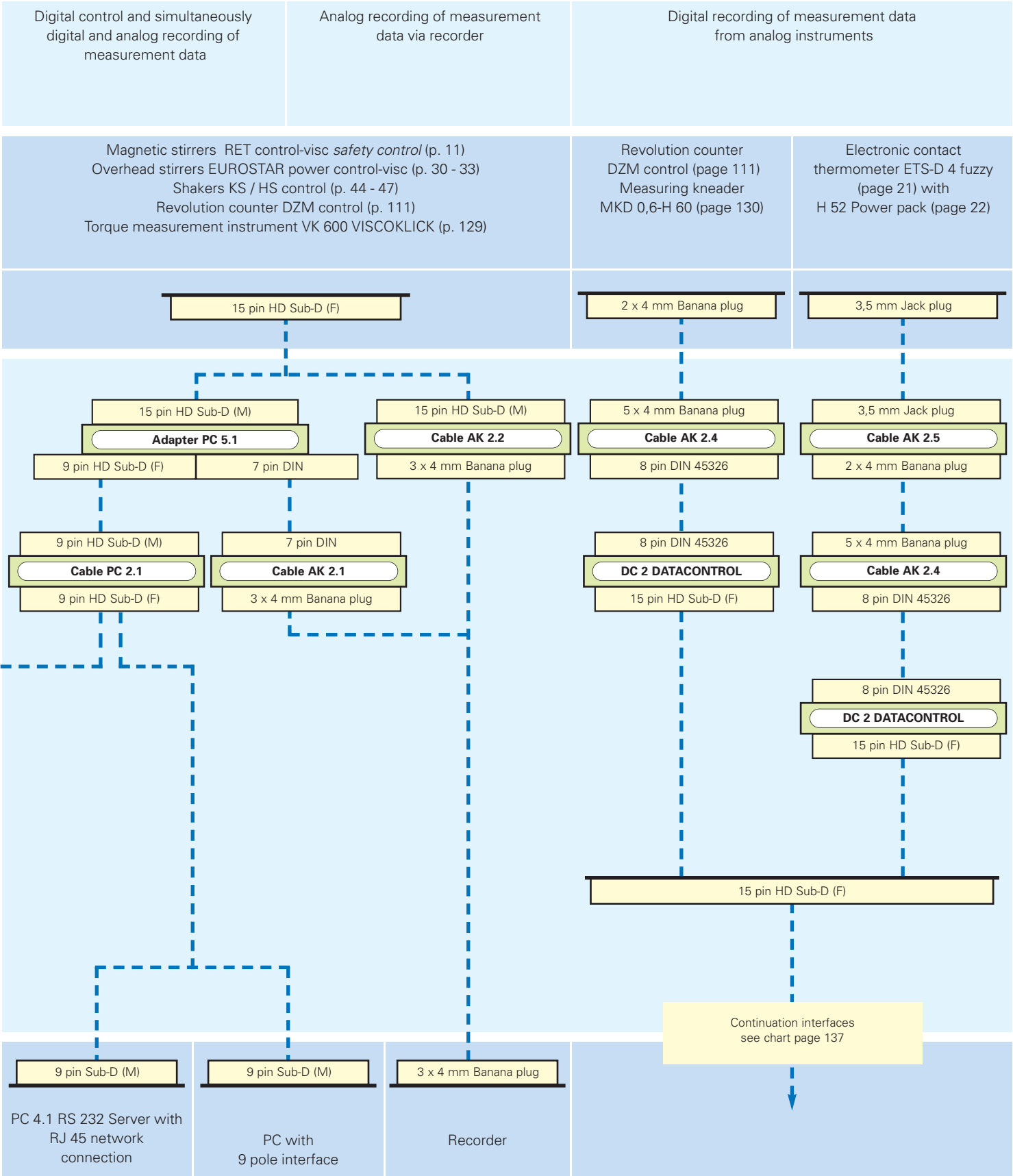


Software

IKA® CATALOG 2005/06

IKA® Software

Overview connection possibilities



IKA® Analytical line

Calorimeters C 2000



C 2000 basic, C 2000 control, C 2000 basic high pressure and C 2000 control high pressure

The C 2000 basic and C 2000 control calorimeters are the newest systems from IKA® for determining gross calorific values of liquid and solid samples.

A high level of automation with extremely simple handling characterizes these instruments. In addition to the isoperibolic measurement procedure (static jacket), a dynamic (reduced-time) working method is also available. Halogen resistant decomposition vessels of the C 5012 series for quantitative decomposition of sulfur and halogens in parallel to determining gross calorific values are available.

To provide the calorimeters with cooling water, they need to be connected to a thermostat like the KV 600 (page 131) or a firmly installed water connection.

The C 2000 basic is equipped with a very convenient console to operate the unit. The C 2000 control is delivered with the proven C 5040 CalWin calorimeter software in order to control the system via PC. Network connection and special configuration for data exchange with LIMS can be implemented at any time.

The C 2000 high pressure is a combination of the C 2000 basic / C 2000 control and the C 62 digestion container (up to 1200 bar operating pressure), see page 147.

- Automatic water handling system includes tempering, filling and emptying of calorimeter inner vessel
- Automatic oxygen filling of decomposition vessel
- Automatic decomposition vessel identification
- Automatic sample ignition
- Validation according to DIN 51900, ASTM 240 D, ISO 1928, BSI etc.
- GHOST-certified
- Working methods:
 - isoperibol, measurement time: approx. 22 min
 - dynamic, measurement time: approx. 7 min
- Compact, integrated modular design for convenient operation
- Cooling water supply via thermostat (KV 600) or firmly installed water connection (C 25 pressure regulating valve recommended, page 147)
- Interface connections for each of the following: scale, printer, monitor and sample rack C 5020 (page 147)
- User-friendly software C 5040 CalWin for controlling the calorimeter and administration of measuring data (page 146)
- LIMS integration is possible
- Special halogen resistant vessel for quantitative decomposition of halogens and sulfur
- The decomposition vessel can be changed over to use disposable crucible C 14 burns during measuring (page 148)
- Up to 8 calorimeters can be controlled by a single PC, using a multi-serial plug-in card (see C 5041 CalWin plus, page 146)

Power input	1,8 kW
Power ON-time	permanent operation
Protection class acc. to DIN EN 60529	IP 21
Permissible ambient temperature	20 - 25 °C (constant)
Permissible humidity	80 %
Dimensions (W x D x H)	440 x 450 x 500 mm
Weight	30 kg
Working range	40.000 J
Reproducibility based on analysis of 1 g benzoic acid NBS 39i	isoperibol 0,05 % RSD dynamic 0,1 % RSD
Working modes	isoperibol 25 °C isoperibol 30 °C dynamic 25 °C dynamic 30 °C
Measurement time: isoperibol	up to 22 min
dynamic	up to 7 min
Operating oxygen pressure	30 bar
Cooling medium	tap water
Min. flow rate	60 l/h
Operated with KV 600 Cooling water supply:	
Pressure	0,3 bar
Temperature (depending on working mode)	18 / 25 °C
Operated at firmly installed water connection:	
Pressure after C 25 pressure regulating valve	1 - 1,5 bar
Temperature (depending on working mode)	12 - 28 °C
Max. pressure at the tap	6 bar

IKA® Analytical line

Calorimeters C 2000



C 2000 basic version 1

Consisting of:
C 2000 basic
C 5010 Decomposition vessel, standard

C 2000 basic version 2

Consisting of:
C 2000 basic
C 5012 Decomposition vessel, halogen resistant

C 2000 basic high pressure

Consisting of:
C 2000 basic
C 62 Decomposition vessel, high pressure
C 60 Conversion set

	Ident. No.		Ident. No.
Version 1	8801800	230 V 50/60Hz	8801801
Version 2	8801900	230 V 50/60 Hz	8801901
basic high pressure	8802300	230 V 50/60 Hz	8802301
			115 V 50/60 Hz



C 2000 control version 1

Consisting of:
C 2000 control
C 5010 Decomposition vessel, standard
C 5040 CalWin, calorimeter software

C 2000 control version 2

Consisting of:
C 2000 control
C 5012 Decomposition vessel, halogen resistant
C 5040 CalWin, calorimeter software
A PC or Notebook is required to operate the C 2000 control

C 2000 control high pressure

Consisting of:
C 2000 control
C 62 Decomposition vessel, high pressure
C 60 Conversion set

	Ident. No.		Ident. No.
Version 1	8802000	230 V 50/60Hz	8802001
Version 2	8802100	230 V 50/60 Hz	8802101
control high pressure	8802400	230 V 50/60 Hz	8802401
			115 V 50/60 Hz

C 2000 Extension device



Consisting of:
C 2000 control (without calorimeter software, without decomposition vessel),
C 5041.10 Connection cable
(for 8x interface box)

Ident. No.		Ident. No.
8802200	230 V 50/60Hz	8802201
		115 V 50/60 Hz

IKA® Analytical line

Calorimeters C 5000



C 5000 control and C 5000 duocontrol

The IKA® calorimeter C 5000 is the only calorimeter in the world that offers a free selection of 3 working methods: Thus it is possible to perform determinations of gross calorific values of liquid and solid samples in adiabatic (approx. 14 - 18 min), isoperibolic (approx. 22 min) and dynamic (reduced time: approx. 10 min) mode.

A high level of automation in addition to an extensive range of accessories leave nothing more to wish for.

- Automatic water handling system includes tempering, filling and emptying of calorimeter inner vessel
- Automatic oxygen filling and degassing of the decomposition vessel
- Automatic decomposition vessel identification
- Validation according to DIN 51900, ASTM 240 D, ISO 1928, BSI etc.
- GHOST-certified
- Interface connections for each of the following: scale, printer, monitor and sample rack C 5020 (page 147)
- User-friendly software C 5040 CalWin for controlling the calorimeter and administration of measuring data (page 146)
- LIMS integration is possible
- Special halogen resistant vessel for quantitative decomposition of halogens and sulfur
- The decomposition vessel can be changed over to use disposable crucible C 14 burns during measuring (page 148)
- The C 5000 control can be expanded to the duocontrol system with two measurement cells at any time

Power input (with one measuring cell)	1,3 kW
Power ON-time	permanent operation
Protection class acc. to DIN EN 60529	IP 21
Permissible ambient temperature	20 - 25 °C (constant)
Permissible humidity	80 %
Weight	41 kg
Working range	40.000 J
Reproducibility based on analysis of 1 g benzoic acid NBS 39i	adiabatic / isoperibol 0,05 % RSD dynamic 0,1 % RSD
Working modes	adiabatic isoperibol dynamic
Measurement time:	adiabatic up to 15 min isoperibol up to 22 min dynamic up to 10 min
Operating oxygene pressure	30 bar
Cooling medium (C 5004)	tap water
Flow rate	70 - 140 l/h
Operated (C 5004) with KV 600:	
Temperature	16 - 20 °C
Operated at firmly installed water connection:	
Min. / max. temperature	15 / 19 °C
Max. pressure at the tap	9 bar

IKA® Analytical line

Calorimeters C 5000



C 5000 control package 1/10

Consisting of:
C 5000 Controller
C 5003 Measurement cell
C 5010 Decomposition vessel, standard
C 5001 Cooling system

Dimensions (W x D x H) 740 x 380 x 400 mm

C 5000 control package 1/12

Consisting of:
C 5000 Controller
C 5003 Measurement cell
C 5012 Decomposition vessel, halogen resistant
C 5001 Cooling system

	Ident. No.		Ident. No.
Package 1/10	8801000	230 V 50/60Hz	8801001 115 V 50/60 Hz
Package 1/12	8801500	230 V 50/60 Hz	8801501 115 V 50/60 Hz



C 5000 control package 2/10

Cooling water supply via thermostat KV 600 (page 147) or firmly installed water connection.

Consisting of:
C 5000 Controller
C 5003 Measurement cell
C 5010 Decomposition vessel, standard
C 5004 Heat exchanger

Dimensions (W x D x H) 560 x 380 x 400 mm

C 5000 control package 2/12

Cooling water supply via thermostat KV 600 (page 147) or firmly installed water connection.

Consisting of:
C 5000 Controller
C 5003 Measurement cell
C 5012 Decomposition vessel, halogen resistant
C 5004 Heat exchanger

	Ident. No.		Ident. No.
Package 2/10	8801200	230 V 50/60Hz	8801201 115 V 50/60 Hz
Package 2/12	8801600	230 V 50/60 Hz	8801601 115 V 50/60 Hz



C 5000 duocontrol package 3/10

System with two measurement cells.
Consisting of:
C 5000 Controller
C 5003 Measurement cell (2 pieces)
C 5010 Decomposition vessel, standard (2 pieces)
C 5002 Cooling system

Dimensions (W x D x H) 1.440 x 380 x 400 mm

C 5000 duocontrol package 3/12

System with two measurement cells.
Consisting of:
C 5000 Controller
C 5003 Measurement cell (2 pieces)
C 5010 Decomposition vessel, halogen resistant (2 pieces)
C 5002 Cooling system

	Ident. No.		Ident. No.
Package 3/10	8801100	230 V 50/60Hz	8801101 115 V 50/60 Hz
Package 3/12	8801700	230 V 50/60 Hz	8801701 115 V 50/60 Hz

IKA® Analytical line

Calorimeters C 7000



C 7000

The C 7000 is the first IKA® calorimeter with a completely dry system for measuring the gross calorific value of solid and liquid samples. The temperature is measured directly in the decomposition system. This results in measurement times in the range of 3 to 7 minutes (depending on the sample). The system can manage up to 8 different decomposition vessels using a code ring scheme.

- High sample frequency
- Precise and reproducible determination of gross calorific values according to ISO 1928
- Reduction of routine work through automatic application flow
- Automatic decomposition vessel identification
- Interface connections for scale, printer and PC
- User-friendly software C 5040 CalWin for controlling the calorimeter and administration of measuring data (page 146)
- Special halogen resistant vessel for quantitative decomposition of halogens and sulfur
- The decomposition vessel can be changed over to use combustible crucibles C 14 burns during measuring (page 148)

Power input	0,1 kW
Power ON-time	permanent operation
Protection class acc. to DIN EN 60529	IP 21
Permissible ambient temperature	18 - 30 °C (constant)
Permissible humidity	80 %
Dimensions (W x D x H)	310 x 490 x 460
Weight (C 7000 and C 7002)	43 kg
Working range	30.000 J
Reproducibility based on 1 g benzoic acid NBS 39i	0,2 % RSD
Working mode	patented double dry working procedure
Measurement time	3 - 7 min
Operating oxygen pressure	30 bar
Cooling medium (C 7002)	tap water
Flow rate (C 7002)	2 - 3 l/min
Temperature	12 - 30 °C (cooling water)
Max. pressure at the tap	9 bar

IKA® Analytical line

Calorimeters C 7000

C 7000 basic equipment set 1

- Consisting of:
- C 7000 Measurement cell
 - C 7010 Decomposition vessel, standard
 - C 7002 Cooling system
 - C 48 Oxygen station



Ident. No.		Ident. No.	
8800900	230 V 50/60 Hz	8800901	115 V 50/60 Hz

C 7000 basic equipment set 2

- Consisting of:
- C 7000 Measurement cell
 - C 7012 Decomposition vessel, halogen resistant
 - C 7002 Cooling system
 - C 48 Oxygen station



Ident. No.		Ident. No.	
8801400	230 V 50/60 Hz	8801401	115 V 50/60 Hz

IKA® Analytical line

Software calorimeters



C 5040 CalWin

CalWin is a control and evaluation software for all IKA® calorimeters (C 2000, C 4000, C 5000, C 7000). Requires a PC running any of the following operating systems: Windows 95 / 98 / ME / NT / 2000 or XP, and at least one free serial interface and 50 MB of available disk space.

- Control, monitor and view working procedures
- Print and save measurement protocols
- Identify and record samples
- Administration of sample racks
- Flexible administration and evaluation of calibrations
- Flexible administration and grouping of measurements
- Printing and saving calibration and result protocols suitable for certification
- Library functions
- Data transfer through COM to EXCEL and ACCESS
- Preprocessed work sheets for EXCEL (configurable by the user)

Ident. No.

3045000

C 5041 CalWin plus

To control up to 8 calorimeters of the same or different type.

Consisting of:

C 5040 CalWin,
PCI 8.2 PC Plug-in card (internal),
Interface box (8x)



Ident. No.

3166000

IKA® Analytical line **Calorimeters accessories**

[illegible]

Calorimeters consumables

[illegible]

IKA® Analytical line

Decomposition system



AOD 1 Decomposition system

Consisting of:
 AOD 1.1 Decomposition vessel,
 C 48 Oxygen station,
 AOD 1.2 External ignition unit,
 AOD 1.11 Control standard (50 ml)

- Oxidative decomposition of solid and liquid organic samples under pressure in a closed system
- Quantitative decomposition of all halogens, sulfur, as well as volatile metals, e.g. As and Hg
- Absorption of the combustion products in an aqueous medium
- Catalytic support of the oxidation process with auto-regenerating catalytic surfaces
- Pressure vessel of high-grade stainless steel
- Decomposition temperature up to 1200 °C
- Max. operating pressure during decomposition 195 bar
- Decomposition time < 3 min
- The decomposition vessel can be changed over to use combustible crucibles C 14 (page 148)
- Control standards for Cl, S, F and Br
- Introduction of the combustion gases into the absorption solution via venting station C 7030

Decomposition time	< 3 min
Core temperature	> 1200 °C
Max. operating temperature	50 °C
Max. operating pressure	195 bar
Volume of decomposition vessel	210 ml
Oxygen pressure	30 bar

IKA® Analytical

Decomposition system accessories



AOD 1.3 Protective device

The use of such a protective device is necessary for operating the decomposition system.

Ident. No.
3308000



C 7030 Venting station

With gas wash bottle according to DIN 12596 for gas absorption.

Ident. No.
3013300

Accessories	Comments	Ident. No.	
AOD 1.13 Remote ignition head		3348100	
C 21 Pelleting press		1605300	
C 29 Pressure gauge, oxygen		0750200	
C 5010.4 Attachment for combustible crucible, C 14		3016900	

Consumables:	Comments	Ident. No.	
C 4 Quartz dish		1695500	
C 9 Gelatine capsules	100 pieces	0749900	
C 10 Acetobutyrate capsules	100 pieces	0750000	
C 12 Combustion bags 40 x 35	100 pieces	2201400	
C 12 A Combustion bags 70 x 40 mm	100 pieces	2201500	
C 14 Combustible crucible	100 pieces	7224500	
C 15 Paraffin strips	600 pieces	3131100	
C 5012.3 Platinum ignition wire	2 pieces	2994900	
C 710.4 Cotton thread, cut to length (not suitable for trace range)	500 pieces	1483700	
AOD 1.11 Control standard for sulfur and chlorine	50 ml	3044000	
AOD 1.12 Control standard for fluorine and bromine	50 ml	3080200	
C 43A Benzoic acid (Combustion aid)	100 g	0750700	
C 723 Benzoic acid, blister package (Combustion aid)	50 pieces	3243000	

IKA®

Questionnaire

Please send via a fax or
mail in window envelope

IKA®-WERKE GMBH & CO.KG
Janke & Kunkel-Str. 10
D-79219 Staufen
Fax: +49 7633 831-98

Name.....
Company.....
Department.....
Street.....
City/State/Zip.....
Country.....
Phone.....
Fax.....
E-Mail.....

Type of processing:	<input type="checkbox"/> Mixing	<input type="checkbox"/> Dissolving	<input type="checkbox"/> Emulsifying
	<input type="checkbox"/> Homogenizing	<input type="checkbox"/> Suspending	<input type="checkbox"/> Wet crushing
			<input type="checkbox"/>
Volume / Quantity:	Discontinuous/batch		
	Continuous...../h		
Viscosity:mPas (20 °C)		
Flow behaviour similar to:	<input type="checkbox"/> Water	<input type="checkbox"/> Motor oil	<input type="checkbox"/> Honey
			<input type="checkbox"/>
Composition:	Liquid:.....%		
	Solid:.....%		
	Particle size initial:.....mm		
	Material:.....		
	Material:.....		
	After end of process:µm		
	pH range Temperature range°C		
	Vacuum range(mbar) Pressure rangembar		
Container dimensions:	Diametermm Total heightmm Filling height.....mm		
Voltage / Frequency:V Hz		
Ex-proof:	<input type="checkbox"/> no <input type="checkbox"/> yes, Ex-class		
Remarks:		
		

Quotes are based on the completed questionnaire. If it is not possible to provide material or process data, please specify approximate, analogous information.

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Terms and Conditions of Sale

The following terms and conditions shall apply to all sales, unless specifically agreed otherwise:

1. General

All agreements must be made in writing. Any terms and conditions of the buyer in his/its enquiries or orders which deviate from the present Terms and Conditions of Sale shall only apply if the supplier has specifically declared its agreement herewith. Any agreements deviating from the present Terms and Conditions of Sale shall only apply to the business for which they were agreed unless they are specifically prolonged.

2. Quotations

The supplier shall be bound to all quoted prices for three months unless otherwise agreed. The right of prior sale shall be reserved. The documents pertaining to the offer, such as illustrations, drawings, weight and dimension details, etc. shall only be approximate unless they are specifically designated as binding. The supplier shall retain the ownership and copyright of cost estimates, drawings and any other documents; they may not be made available to any third parties. Plans received from the buyer and designated as confidential shall only be made available to third parties by the supplier with the consent of the buyer.

3. Conditions of delivery

The written order acknowledgement of the supplier shall be relevant for the scope of delivery. All ancillary agreements and modifications shall require written confirmation by the supplier.

4. Prices and payments

- a) Unless otherwise agreed, all prices shall apply ex works excluding packing. All prices shall be subject to the statutory rate of value-added tax. Confirmed prices shall be based on prevailing material prices and wages. The supplier shall reserve the right to charge the material prices and wages prevailing at the time of delivery.
- b) Unless otherwise agreed, all payments shall be made to the cash office of the supplier without deductions or charges, with 2% cash discount for payment within 14 days or net within 30 days. If payments are deferred or not made as agreed, default interest at eight percent above the basic discount rate of the EZB shall be charged. Special payment conditions shall apply to export deliveries.
- c) No withholding of payments, nor any offsetting of counter claims disputed by the supplier, shall be permitted.

5. Delivery period

- a) The delivery period shall commence with the dispatch of the order acknowledgement but not before receipt of the documents, licenses and approvals to be acquired by the buyer and not before receipt of the agreed down-payment.
- b) The delivery period shall be deemed to have been

upheld if the object of delivery has left the works of the supplier before the end of the delivery period or if readiness to supply has been notified.

- c) The delivery period shall be reasonable prolonged in the event of labor disputes, particularly strikes or lock-outs, or in the event of unforeseen impediments can be shown to have had a material effect on the production or delivery of the object of supply. This shall also apply if the aforesaid circumstances occur at sub-contractors of the supplier.
- d) If dispatch is delayed at the request of the buyer, the buyer shall be charged with the storage costs incurred commencing one month after the notification of readiness to deliver but not less than 1/2% of the invoice amount for each month if the goods are stored in the works of the supplier.
- e) In case of delayed acceptance by the buyer, and after setting and fruitless course of a reasonable period of time, the supplier has the right of further disposal of the goods.

6. Call-up of goods

Goods ordered on call shall be called up within a reasonable period with special agreement, but no later than 12 months from the date of the order acknowledgement. If ordered goods are not called up on time, the supplier shall be entitled to store the goods which are ready for dispatch, such storage being at the risk of the buyer, and to invoice the goods with all the storage costs incurred as if they had been delivered or to dispatch the goods without having received a dispatch request from the buyer.

7. Transfer of risk and acceptance of goods

- a) Risk shall pass to the buyer no later than the dispatch of goods, also if part-shipments are made or if the supplier has assumed other performances, e.g. dispatch costs or transportation and installation.
- b) If specific instructions for the dispatch of goods are not included in the order, goods shall be dispatched at the discretion of the supplier, without any obligation for the cheapest mode of transport.
- c) In the interests of the buyer, the supplier shall insure shipments against theft, breakage, transport, fire and water damage and against any other reasonable risks at the cost of the buyer. Only on the specific request of the buyer transport insurance of the aforesaid type shall not be concluded. Unless otherwise agreed, the supplier shall charge 0,5% of the invoice value for transport insurance and 2% of the invoice value for fragile accessories. Any transport damages shall be notified to the supplier within 8 days, together with the damage report of the transport establishment; such transport damages shall otherwise not be accepted. Any incomplete deliveries shall likewise be notified to the supplier within 8 days; notifications of missing deliveries shall otherwise not be accepted. Shipments destined for export shall only be insured on the specific instructions of the buyer and at the cost of the buyer.

- d) If dispatch is delayed for reasons attributable to the buyer, risk shall pass to the buyer on the date of readiness to supply; the supplier shall; however, be obliged to insure the goods at the request of the buyer and at the cost of the buyer.
- e) Part-shipments shall be admissible.

8. Reservation of title

- a) The supplier shall reserve title to the goods delivered until all claims of the supplier against the buyer arising from the business relationship have been settled in full, including all future claims arising from simultaneous or subsequent contracts. This shall also apply if individual or all claims of the supplier are placed on a current account and if a balance is drawn and recognized. In the event of any non-contractual conduct by the buyer, in particular payment delay on the part of the buyer, the supplier shall be entitled to demand the return of the reserved goods with prior notification and the buyer shall be obliged to return such goods. The return of goods or the pledging of goods by the supplier shall only constitute withdrawal from the contract if such withdrawal is specifically notified by the supplier in writing unless the German Hire Purchase Law applies. The buyer shall be obliged to notify the supplier immediately in writing if reserved goods are pledged or seized in any other way by a third party.
- b) The buyer shall be entitled to sell the delivered goods in the ordinary course of business. The buyer shall, however, hereby assign to the supplier all his/its claims against his/its customers or third parties arising from such resale, irrespective of whether the reserved goods are resold without having been processed or not. The buyer shall also be entitled to collect the aforesaid claims after the aforesaid assignment to the supplier. This shall not prejudice the right of the supplier to collect such claims as long as the buyer discharges his/its payment commitments in an orderly and proper manner. The supplier shall be entitled to demand that the buyer notifies the assigned claims and the names of the liable parties to the supplier, that all the details required for collection are provided, that the relevant documents are submitted to the supplier and that the liable parties are informed of the assignment. If the reserved goods are sold together with other goods to which the supplier has no title, the claim of the buyer against his/its customer shall be deemed as assigned to the supplier in the amount of the delivery price agreed by the supplier and the buyer.
- c) Any processing or transformation of reserved goods by the buyer shall always on behalf of the supplier. If reserved goods are processed with other goods to which the supplier has no title, the supplier shall acquire co-ownership in the new chattel in the ratio of the value of the reserved goods to the value of the new processed chattel at the time of processing. The processed chattel shall also be governed by the provisions relating to

the reserved goods. The supplier shall be obliged to release any securities to which he is entitled only if such security exceeds the secured claims by more than 25% provided such claims of the supplier have not already been settled by the buyer.

- d) The supplier shall, at the cost of the buyer, be entitled to insure the reserved goods against theft, breakage, fire, water and any other damages unless the buyer is able to prove that he/it has taken out such insurances.
- e) Any intervention costs incurred by the supplier shall be borne by the buyer.

9. Liability for defects

Notwithstanding Section 11, the supplier shall be liable for defective supplies as follows, to the exclusion of all further claims:

- a) All those parts which prove unusable or the usability of which is severely impaired within 12 months of putting into service due to circumstances prevailing prior to the transfer of risk shall be rectified or replaced by the supplier without charge and at the reasonable discretion and option of the supplier. The identification of any such defects shall be notified to the supplier in writing immediately. Any replaced parts shall become the property of the supplier. If dispatch, installation or putting into service are delayed for reasons not attributable to the supplier, the aforesaid liability shall lapse no later than 15 months from the transfer of risk.
- b) The right of the buyer to enforce claims for defects shall in all cases become statute-barred 6 months from the date of the due complaint by the buyer but no later than the end of the warranty period.
- c) No liability shall be assumed for damages arising for the following reasons: improper or incorrect use, defective installation or putting into service by the buyer or third parties, natural wear and tear, incorrect or negligent handling and the use of unsuitable materials, replacement materials, defective construction work, unsuitable foundations, chemical, electrochemical or electrical influences unless they are attributable to negligence or intent on the part of the supplier.
- d) The buyer shall, after consultation with the supplier, grant the supplier the necessary time and opportunity to carry out all the rectifications and replacements which the supplier considers necessary at its reasonable discretion, otherwise the supplier shall be exempt from its liability for the aforesaid defects. Only in cases of emergency endangering operational safety and to avert disproportionately high damages - were by the supplier is to be informed immediately - or if the supplier is in delay with the rectification of the defect the buyer shall be entitled to rectify the defect himself/itself, or to have the defect rectified by a third party and to demand reimbursement of the necessary costs from the supplier.
- e) Of the direct costs directly incurred as a result of the rectification or replacements - provided the

complaints of the buyer prove to be justified - the supplier shall bear the costs of the replacement parts, including dispatch costs, and reasonable dismantling and installation costs and the costs of providing any technicians and auxiliary staff of the buyer if the reimbursement of such costs can be equitably demanded in the specific circumstances. Other costs shall be borne by the buyer.

- f) The liability of the supplier shall lapse for the consequences of any improper modification or maintenance work undertaken by the buyer or a third party without the prior consent of the supplier.
- g) Additional claims of the buyer, particularly compensation claims and claims for damages not sustained by the delivered goods themselves, shall be excluded if permitted by law.

10. Liability for ancillary obligations

If, for reasons attributable to the supplier, the delivered goods cannot be used by the buyer as specified in the contract due to an omitted or defective execution of recommendations and advice given prior to or after the conclusion of the contract - in particular usage or maintenance instructions for the delivered goods - the provisions of Sections 9 and 11 shall apply correspondingly, to the exclusion of any additional claims by the buyer.

11. Right of withdraw by the buyer

- a) The buyer shall be entitled to withdraw from the contract if the supplier is finally and conclusively unable to perform prior to the transfer of risk.
- b) The buyer shall be entitled to withdraw from the contract if delivery is delayed within the meaning of Section 5 and if the buyer grants the supplier a reasonable period of grace with a specific declaration that he/it will reject acceptance of the goods after such period of grace and if the period of grace is not upheld by the supplier.
- c) If delivery of the goods is not possible during a period of acceptance delay or for reasons attributable to the buyer, the buyer shall be obliged to meet his/its contractual obligations.
- d) The buyer shall also have a right of withdrawal from the contract if, through negligence or intent, the supplier fails to respond to a period of grace granted for the rectification or replacement of a defect attributable to the supplier within the meaning of the present Terms and Conditions of Sale. Such right of withdrawal by the buyer shall also apply in the event of impossibility to supply or the inability of the supplier to rectify or replace the aforesaid defect.
- e) All other further claims of the buyer shall be excluded, if permitted by law.

12. Rights of withdrawal by the supplier

The contract shall be reasonably modified in case of unforeseen events within the meaning of Section 5 of the present Terms and Conditions of Sale, if such events materially change the financial and substantive implications of the performance of the supplier or if they materially affect the operations of the supplier

and if it later transpires that the supplier is unable to perform its contractual obligations. If this is not economically possible, the supplier shall be entitled to withdraw from the whole or part of the contract. Any compensation claims by the buyer due to the exercise of such right of withdraw shall be excluded, if permitted by law. If the supplier makes use of its right to withdraw from the contract, it shall be obliged to notify the buyer immediately after having become aware of the implications of the aforesaid event.

13. Competent court and legal venue

- a) For all disputes arising from the contractual relationship, legal action shall be taken at the competent court for the registered office of the supplier or the branch of the supplier effecting delivery if the buyer is a registered trader, a legal entity under public law or a public-law fund. The supplier shall also be entitled to bring action at the principal place of business of the buyer.
- b) For legal relations in connection with this contract German material law is applicable, whereas the agreement of the United Nations regarding contracts ruling the international purchase of goods (CISG) is excluded.

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IKA® WERKE GMBH & CO.KG
D-79219 Staufen

IKA® General Information

Device safety, environment

All IKA® laboratory devices satisfy the international legal regulations according to DIN EN IEC 61010. Any instrument is safety tested according to this norm before it leaves IKA®. Instruments designed for the European market are labeled with the CE mark, to state that they satisfy the applicable EU regulations and norms. Environmental factors were especially taken into consideration when materials were selected (CFC-free and cadmium-free products).

Patents

Certain products featured in the catalog have been assigned property rights such as patents, trademarks, etc. These property rights only apply within the Federal Republic of Germany. On request, we will gladly provide information with regard to their validity in other countries.

Guarantee, Warranty

The warranty satisfies the relevant legal regulations. The guarantee period for our products is 2 years, for analyzing technology products the period is 1 year.

Copyright

Copying for commercial purposes is expressly permitted. We refer to the copyright with regard to tables, catalog design and formulations. Documentary evidence of used catalog pages is desired.

Illustrations

The glass vessels and containers shown in the photos together with the instruments are generally not included in the product package.

Voltage / Frequency / Plugs

The instruments featured in this catalog require a voltage of 230 V (50/60 Hz), 115 V (50/60 Hz). Please contact us if you have queries concerning different connected loads.

Service

Please contact your specialist dealer or IKA® direct in case of service queries. For spare parts replacement, please indicate the serial number and instrument type.

Certification



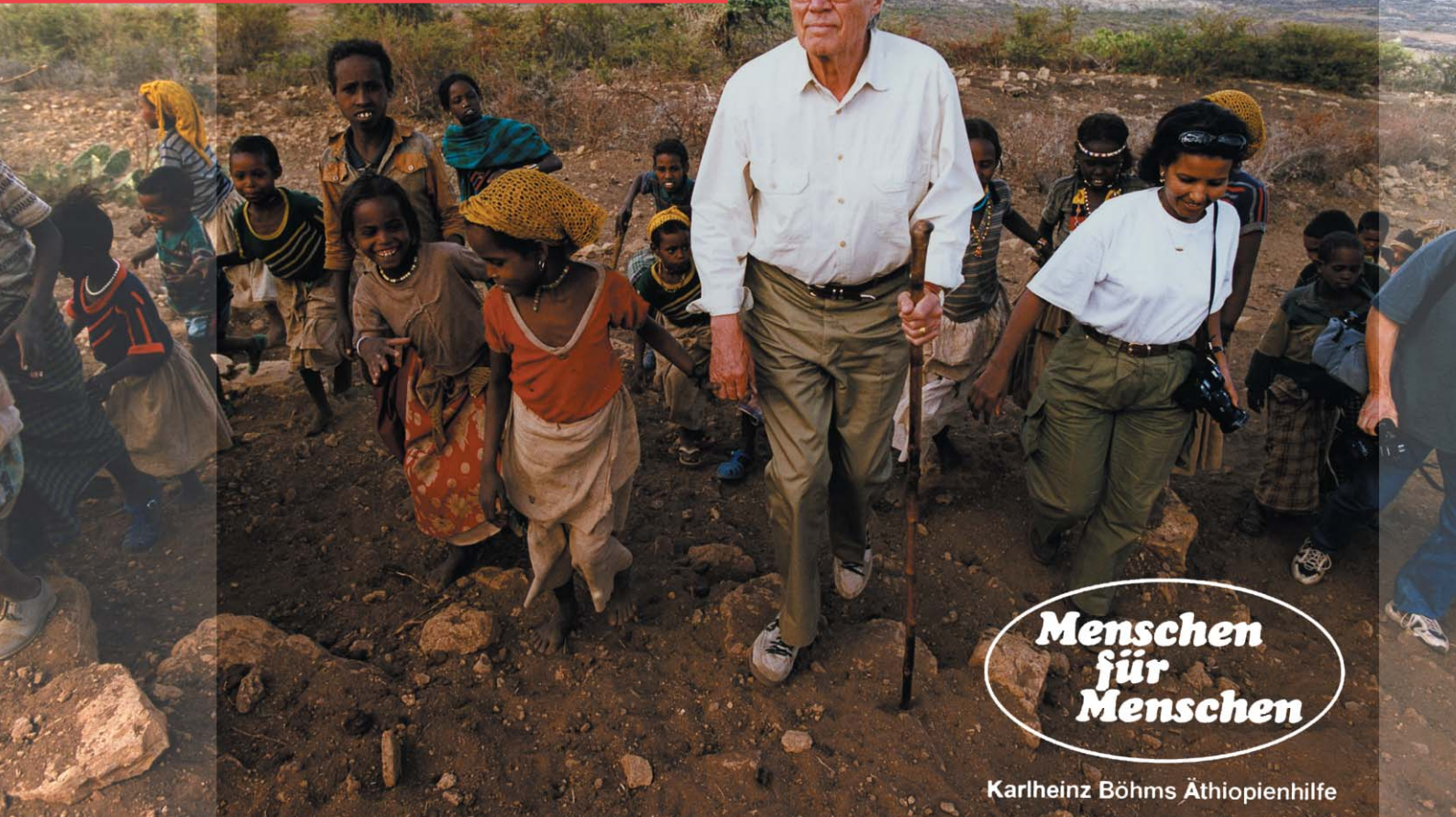
DIN EN ISO 9001
Reg. Nr. 4343

AISI steel designation

Refers to the American steel standard.

HANDS

for children



**Menschen
für
Menschen**

Karlheinz Böhm's Äthiopienhilfe

The Project 2002-2006

HANDS *for children* and IKA®



the product

EH 4 basic

Christoffel Blind Mission in Peru
the project 2001



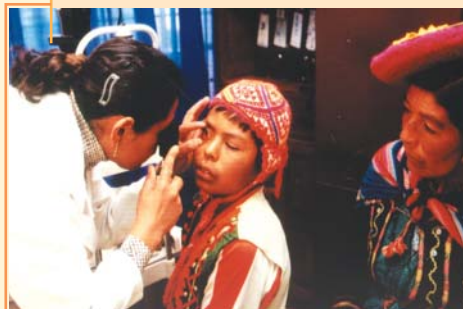
HANDS *for children* and IKA®



HANDS *for children* is a nonprofit project of IKA®-Werke in Staufen, Germany with the goal to help and support the needy children of the Third World. Experienced retirees from the IKA® team volunteer their time to manufacture the laboratory equipment for this program. HANDS *for children* combines the power of an independent company with the knowledge of experienced retired workers. The profit gained by these activities is donated, in full, to institutions that help needy children or is used directly to help needy children. The recipients are chosen by the employees of HANDS *for children* and the donations are closely monitored.

the sponsored project 2001

VISION 2020: Christoffel Blind Mission in Peru



According to estimates there are 12.000 blind children under the age of 14 in Peru. Approximately 2.000 live in the capital, Lima, with eight million inhabitants. CBM and its campaign, VISION 2020, made it possible for thousands of Indios to find help for their eye problems. The exemplary work of the ophthalmic clinic for the poor is gaining widespread recognition in the region. Twelve projects for the prevention of blindness have already been implemented by the CBM.



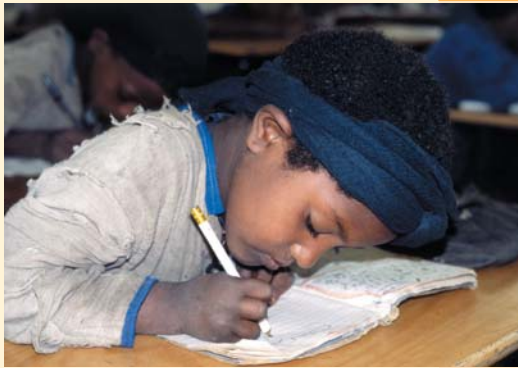
HANDS *for children* was able to support the VISION 2020 campaign with more than \$ 50.000 in 2001. The money was used for the purchase of needed medication, setup of operating rooms, special microscopes, and anesthetic instruments.

Further information about CBM and its projects can be requested at: Christoffel-Blindenmission e.V., Niebelungenstr. 124, 64625 Bensheim, Germany.



the new project 2002 to 2006

People for People, building schools in Ethiopia project



In his anger over the unjust, inhumane gap between wealth and poverty on our planet the actor, Karlheinz Böhm, founded the association "Stiftung Menschen für Menschen e.V." ("People for People Foundation") in 1981. With this association he has given aid, independent of political, economic, or religious interests, to help Ethiopia.

More than 1,7 million people, the majority being children, were helped in the last 20 years through the association.

However, so many still live under inhumane conditions. With profits from the sale of the EH 4 basic 2002 to 2006, HANDS *for children* will support the project in order to build schools in Babile Woreda - the extremely arid region of eastern Ethiopia.

The major activities of the project will be new buildings, furnishings and equipment as well as the repair of older schools and the building of housing for the teaching staff. At the same time primary education for the rural population will be implemented in order to minimize the illiterate rate (average in Ethiopia: males 60%, females 73%).

This should set the stage for better learning and teaching.

The long-term goal is to raise the educational level and with that increase the development of Ethiopia.



Further information on "People for People" and about the sponsored project will be available at www.menschenfuermenschen.de, or at: Menschen für Menschen, Brienner Str. 46, 80333 München, Germany.



the current products

EH 4 basic

The *HANDS for children* products are backed by the experience of **IKA®**. The first in a series of further laboratory equipment is the EH 4 basic immersion thermostat. *HANDS for children* and **IKA®** guarantee the outstanding quality and excellent price-performance ratio of the product that can be purchased through specialized distributors or through **IKA®** directly.



This immersion thermostat is ideal for temperature control up to 100 °C in open containers (depth of bath at least 160 mm). The use is intended only for non-flammable liquids. It complies with all current safety requirements for electrically operated laboratory devices.

Heat output: 1.500 W,
control accuracy ± 0.2 K.

VORTEX Genius 3 / IKA®-PET



Other products which benefit the *HANDS for children* project: VORTEX Genius 3 (page 40) and **IKA®-PET** pipettes (page 92).



