

**1**


### 1 Homogeniser SilentCrusher S

**Small model for use in microbiology**
*Heidolph*

- Featuring a speed range up to 75000rpm the SilentCrusher S is by far the fastest and most silent homogenizer in the world
- To protect your sample effectively from any thermal damage the drive system switches off automatically after 90 seconds
- Easy to use: Simply drop the reaction vessel into the drive system and it will start automatically
- If required, you can easily cool down samples by using ice or cold water. Three discs are included in every shipment which allow for height positioning of any cooling tray
- Ideal for homogenising sample quantities from 0.8ml to 10ml and a viscosity up to 5000mPa s
- Choose from three different sterilisable generators: 3mm or 7mm, these options will certainly include a generator that works best for your needs

**Technical Data**

Input Power:	24W
Dimensions:	
Drive (dia. x H):	125 x 197mm
Power Supply Pack (W x H x D):	106 x 30 x 65mm
Voltage:	100-240V, 47-63Hz
Protection Class:	IP30
Weight:	0.8kg

Type	PK	Cat. No.
SilentCrusher S	1	9.570 135

**2**


### 2 Generators Homogeniser SilentCrusher S

- Homogenise with high quality generators made of corrosion resistant stainless steel

*Heidolph*

- AISI 316
- SilentCrusher generators are easily disassembled for quick and convenient cleaning; ideal for multiple samples
- Generators are autoclavable up to 130°C or allow for air sterilization up to 180°C
- To ensure years of unlimited usage the ball bearings and the attachment for the generators are made of chemically resistant PTFE
- 10 Polypropylene vessels which perfectly fit your generator of choice are included as a standard

Type	Stator dia.	Shaft length min.	Output particle size	Capacity	Recommendations for use	PK	Cat. No.
	mm	mm	mm	ml			
3 F	3.3	26	<0.4	0.8 to 1.0	Reaction tubes	1	9.570 136
5 F	5.0	38	<0.4	2.0 to 4.0	Test tubes	1	9.570 137
7 F	7.0	55	<0.4	6.0 to 10.0	Test tubes	1	9.570 138

### 1 Homogeniser SilentCrusher M

**Model for all standard applications**

Heidolph

- With a speed range up to 26000rpm the SilentCrusher M is the most silent homogeniser in the world
- Large digital display allows for easy setting and read out even from a distance
- Speed can be adjusted individually from 5000rpm to 26000rpm
- Your first choice for any quantities from 0.8ml to 2000ml
- Allows for any viscosity up to 5000mPa s
- Choose from 13 different sterilisable generators: From 6mm to 22mm diameter you will find options which meet your specification

1



Type	PK	Cat. No.
SilentCrusher M	1	9.570 140

### 2 Generator for Homogeniser SilentCrusher M

Heidolph

- Homogenise with high quality generators made of corrosion resistant stainless steel AISI 316
- SilentCrusher generators are easily disassembled for quick and convenient cleaning, ideal for multiple samples
- Generators are autoclavable up to 130°C or allow for air sterilisation up to 180°C
- Due to interchangeable ball bearings and chemically resistant PTFE, all bearings are designed for years of unlimited usage
- For larger samples it may be necessary to pre-crush samples. In this case we recommend generators which feature additional sprockets (except for 18G, 18DG, 22G)
- For applications under vacuum down to 20mbar or pressure up to 6 bar we recommend our sealed generators

2



Type	Stator dia.	Rotor dia.	Slit width	Length	Capacity	Output particle size	PK	Cat. No.
	mm	mm	mm	mm	ml	mm		
6 F	5.3	3.20	0.6	60	0.8 to 30	< 0.4	1	9.570 139
8 F	8.2	6.60	0.6	80	3 to 50	< 0.4	1	9.570 141
8 DF*	8.2	6.60	0.6	75	3 to 50	< 0.4	1	9.570 142
12 F	12.0	9.00	0.6	120	25 to 250	< 2.0	1	9.570 143
12 G	12.0	9.00	2.0	120	25 to 250	< 2.0	1	9.570 144
12 DF*	12.0	9.00	0.6	115	25 to 250	< 2.0	1	9.570 145
12 DG*	12.0	9.00	2.0	115	25 to 250	< 2.0	1	9.570 146
18 F	18.0	12.50	1.5	180	100 to 1500	< 4.0	1	9.570 147
18 G	18.0	12.50	3.0	180	100 to 1500	< 4.0	1	9.570 148
18 DF*	18.0	12.50	1.5	175	100 to 1500	< 4.0	1	9.570 149
18 DG*	18.0	12.50	3.0	175	100 to 1500	< 4.0	1	9.570 150
22 F	22.0	16.50	1.5	180	100 to 2000	< 4.0	1	9.570 104
22 G	22.0	16.50	3.0	180	100 to 2000	< 4.0	1	9.570 105

\* For applications under pressure or vacuum (max. pressure 6 bar/min. vacuum 20 mbar).

We can supply this  
**manufacturer's**  
 whole  
**product range !**



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### 1 Accessories for Homogeniser SilentCrusher M

#### Plate stand

Footprint: 180 x 245mm, Shaft: diameter 13mm, Length: 600mm, Weight: 1.8kg

*Heidolph*

#### Cross sleeve S

Please note, 2 clamps are required to attach the SilentCrusher M and the vessel holding bracket.

#### Vessel holding bracket incl. 2 retainer rings

For different vessels diameter 20mm to 105mm

Type	PK	Cat. No.
Plate stand	1	9.570 151
Cross sleeve S	1	9.570 152
Vessel holding bracket incl. 2 retainer rings	1	9.570 153



### 4 Disperser System Ultra-Turrax® Tube Drive

Disperse, stir, and grind using a single drive unit. Patented disposable disperser system for volumes from 2ml to 50ml with hermetically sealable, disposable sample tubes. Provides protection and safety from: Infectious samples, toxic substances, strong-smelling materials.

- no possibility of cross-contamination
- suitable for individual or serial operations
- increased safety due to low voltage (24V) power
- chemically resistant plastic containers
- anti-locking function
- patented
- worldwide service guaranteed by Ika®

**ULTRA-TURRAX® Tube Drive Workstation supplied with:**

Ultra Turrax® Tube Drive, 2 x DT-20 dispersing tubes incl. hook for removing the rotor-stator unit, 2 x ST-20 stirring tubes, 2 x BMT-20 G/S Ball-mill-tubes (with glass balls/stainless steel balls, respectively), power supply and 1 x removal hook for removal the rotor-stator unit.

**Dispersing tubes (20ml and 50ml) with pierceable membrane and  $\gamma$ -sterilized are available on request.**

**ULTRA-TURRAX® Tube Drive control Workstation supplied with:**

ULTRA-TURRAX® Tube Drive control , 1 x ST-20, 1 x DT-20 incl. 1 removal hook for removal the rotor-stator unit, 2 x BMT-20 G/S, power supply.

**Specifications**

Motor rating input/output	
ULTRA-TURRAX® Tube Drive:	20/17 W
ULTRA-TURRAX® Tube Drive control:	28/17 W
Volume:	2 to 50ml
Viscosity max.:	5000mPas
Speed range	
ULTRA-TURRAX® Tube Drive:	300 to 6000rpm
ULTRA-TURRAX® Tube Drive control:	400 to 800rpm
Noise without element:	50dB(A)
Timer	
ULTRA-TURRAX® Tube Drive:	1 to 59sec. (300 to 6000rpm) 1 to 29min. (300 to 4000rpm)
ULTRA-TURRAX® Tube Drive control:	1 sec. up to 30min. (continuously adjustable)
Protection class according to DIN EN 60529:	IP20
Supply requirements:	100 - 240V 50/60Hz
Tested to DIN EN IEC 61010-1.	

IKA



9.570 500



9.570 506



4.008 150



Description	Dimensions (W x D x H) mm	Weight kg	PK	Cat. No.	
Ultra-Turrax® Tube Drive	100 x 160 x 40	0.75	1	9.570 500	1
Ultra-Turrax® Tube Drive Workstation	100 x 160 x 40		1	9.570 506	2
ULTRA-TURRAX® Tube Drive control	122 x 178 x 54	0.90	1	4.008 150	3
ULTRA-TURRAX® Tube Drive control Workstation	122 x 178 x 54		1	4.008 135	
DT-20 Dispersing Tube			25	9.570 507	
ST-20 Stirring Tube			25	9.570 508	
BMT-20 G Ball-Mill-Tube (with glass balls)			25	9.570 509	
BMT-20 S Ball-Mill-Tube (with stainless steel balls)			25	9.570 510	

50 ml tubes available on request.

**1**


### 1 Disperser/ Homogenizer Miccra D-9

Light, compact, strong, with extremely high-speed. These are the features of this extraordinary drive which fits to all common laboratory applications from soil technology to cell biology. A unique volume range from 0.1 up to 20000ml can be handled with this unit with unequalled results.

*Art Prozess- & Labortechnik*

#### Specifications

Power input:	850W
Power output:	495W
Voltage/Frequency:	200 - 240V 50/60Hz
Volume range:	0.1 to 20000ml
Speed range:	11000 to 39000rpm
Speed adjustment:	Yes
Electronic stabilizer:	Yes
Weight:	approx. 1.4kg
Dimensions:	66 x 66 x 232mm
Protect.syst./safety class:	IP 20/II
Overload protection:	Thermal Sensor
Safety switch:	Yes
Smooth start:	Yes
Permissible ambient temp.:	5 to 50°C
Permissible ambient humid.:	up to 85%
CE label:	Yes
Warranty:	5 years

Type	PK	Cat. No.
Miccra D-9	1	4.006 938

**2**


### 2 Hand-held dispersing and homogenizing device MICCRA D-15

Although its size is small, this drive is a real high power unit. The successor of the MICCRA D-13, with its integrated constant electronics and its more powerful 1.520 Watt motor works out large volumes, keeping a constant speed even with increasing viscosities.

*Art Prozess- & Labortechnik*

#### Technical specification

Power input:	1520W
Power output:	900W
Voltage/Frequency:	200 - 240V 50/60Hz 110 - 120V 50/60Hz
Volume range:	100 - 50000ml
Speed range:	8800 - 33600rpm
Speed adjustment:	Yes
Electronic stabilizer:	Yes
Weight:	2.0kg
Dimensions:	70 x 70 x 270mm
Protect.syst./safety class:	IP 20/II
Overload protection:	Thermal Sensor
safety switch:	Yes
Smooth start:	Yes
Permissible ambient temp.:	5 - 50°C
Permissible ambient humid.:	up to 85% R.H.
CE label:	Yes
Warranty:	5 years

Type	PK	Cat. No.
Miccra D-15	1	4.006 939

### 1 Dispersing tools Pico Series, 316 L SS

Our "Pico" tool range applies particularly for smaller sample quantities in the bio and genetic sample preparation, especially in PCR diagnostics. Whether you would like to extract RNA or cut up fabric for other analysis procedures. The tools of the Micra biotech range will accelerate and simplify your work without heating up the sample. They are also reliable aids for cell determinations and enzyme studies. Combined with the high revving Micra D-1 and D-9 drives you will receive excellent results within seconds, which have been confirmed to us by various BSE laboratories.

Art Prozess- & Labortechnik



Technical data:

Material: 316 L SS  
Rotor type: Cutting rotor

Type	Stator type mm	Outer diameter mm	Tool length mm	PK	Cat. No.
DS-5k-1*	5mm ZkS	5mm	120mm	1	4.006 940
DS-8/P**	8mm ZkS	8mm	155mm	1	6.222 320
DS-14/P**	14mm ZkS	14mm	200mm	1	4.006 942

\* Hybrid bearing  
\*\*PTFE (plain white)

### 2 Ultra-Turrax® T10 basic

Competitively priced dispersing instrument for volumes of 0.5ml to 100ml. A wide speed range allows you to work at high circumferential speeds. IKA

- maintains speed with various media thanks to high performance 125W 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 (5mm, 8mm and 10mm 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

Supplied with: storage case to hold drive and accessory dispersing elements (to be ordered separately), spare seals and R 200 clamp



#### Specifications

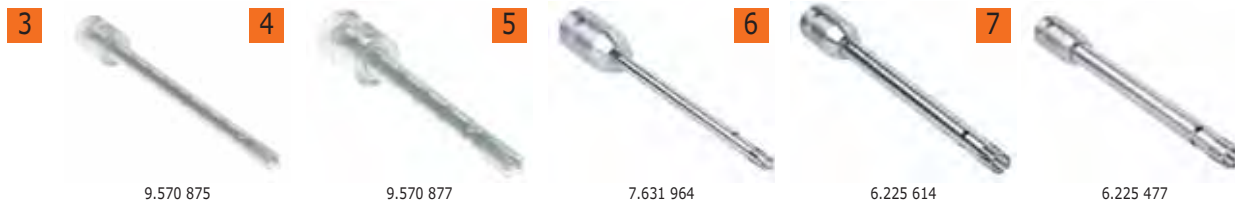
Motor rating input/output: 125/75W  
 Working volume range (H<sub>2</sub>O): 0.5 to 100ml  
 maximum viscosity: 5000mPas  
 Speed range: 8000 to 30000rpm  
 Speed adjustment: stepless  
 Speed display: Scale (1 to 6)  
 Clamping rod diameter/length: 8 mm/100mm  
 Dimensions: 46 x 57 x 201mm  
 Weight: 0.4kg  
 Protection rating to DIN EN 60529: IP30  
 Tested to DIN EN IEC 61010-1.

Type	PK	Cat. No.
T10 basic Ultra-Turrax®	1	9.570 843

### Dispersing heads Ultra Turrax® T 10 basic

Dispersing heads, plastic: Autoclavable. Dispersing heads, stainless steel: Ultimate fineness emulsions 1 to 10µm and suspensions 5 to 25µm, sterilisable by all methods. IKA

Type	Material	Diam. rotor / stator mm	Max. immersion depth mm	Working volume ml	PK	Cat. No.
S 10 D - 7G - KS - 65	PC, PSU	4,8 / 7	50	1 to 20	25	9.570 875 <span style="background-color: #ff9900; color: white; padding: 0 2px;">3</span>
S 10 D - 7G - KS - 110	PC, PSU	4,8 / 7	90	1 to 40	25	9.570 877 <span style="background-color: #ff9900; color: white; padding: 0 2px;">4</span>
S 10 N - 5 G	PTFE, AISI 316L	3,8 / 5	75	0.5 to 10	1	7.631 964 <span style="background-color: #ff9900; color: white; padding: 0 2px;">5</span>
S 10 N - 8 G	PTFE, AISI 316L	6,1 / 8	95	1 to 50	1	6.225 614 <span style="background-color: #ff9900; color: white; padding: 0 2px;">6</span>
S 10 N - 10 G	PTFE, AISI 316L	7,6 / 10	100	1 to 100	1	6.225 477 <span style="background-color: #ff9900; color: white; padding: 0 2px;">7</span>



Accessories please see page 531

**1**

**1 Ultra-Turrax® T18 basic**
**NEW!**

IKA

- For volumes of 1ml to 1500ml (H<sub>2</sub>O)
- a broad operating range enables you to work at high rotational speeds
- electronic speed control
- electronic overload protection
- quick release button for removing dispersing element
- T18 is equipped with a connection for a revolution counter

**Specifications**

Motor rating input/output:	500/300W
Working volume range (H <sub>2</sub> O):	1 to 1500ml
Maximum viscosity:	5000mPas
Speed range:	3500 to 24000rpm.
Speed adjustment:	stepless
Speed display:	Scale (1 to 6)
Noise without dispersing element:	73 dB (A)
Clamping rod diameter/length:	13mm/175mm
Dimensions (WxDxH):	65 x 80 x 240mm
Weight:	1.6kg
Protection rating to DIN EN 60529:	IP20
Supply requirements:	230V 50/60Hz
Tested to DIN EN IEC 61010-1.	

Type	PK	Cat. No.
Ultra-Turrax® T18 basic	1	9.570 840
T 18 basic ULTRA-TURRAX® Package (incl. S 18 N - 19 G)	1	9.570 846

Optional accessories: Dispersing heads, stands: R 1825, R 1826, R 1827, R 182 bosshead, RH 3 Strap clamp

**2**

**2 Dispersing heads for Ultra Turrax® T18 basic**

IKA

Plastic dispersing heads: Autoclavable  
 Stainless steel dispersing heads: Ultimate fineness emulsions 1 to 10µm and suspensions 10 to 50µm, sterilisable by all methods.

Type	Diam. rotor / stator	Max. immersion depth	Working volume	Material	PK	Cat. No.
	mm	mm	ml			
S 18 D-10 G-KS	6.75 / 10	85	10 to 100	PC, PEEK	10	9.570 855
S 18 D-14 G-KS	9.5 / 14	85	10 to 500	PC, PEEK	10	9.570 857
S 18 N-10 G		70	1 to 100	PTFE, AISI 316L	1	9.570 841
S 18 N-19 G		170	10 to 1500	PTFE, AISI 316L	1	9.570 842

**3**

**3 Homogenizer, Ultra-Turrax® T 25 digital**

IKA

With choice of 15 easily interchangeable dispersing heads, volume range 1ml to 2000ml.  
 Also available are 5 additional grinding rotors, 3 seal types and several special dispersing heads. Please order the appropriate accessory heads separately. Applications range from the homogenisation of sewage samples to use in laboratory reactions, from vacuum/pressure dispersing tasks to sample preparation in medical diagnostics. Supplied with interface for rev counter DZM control.

**Specifications:**

Motor rating input/output:	500/300W
Volume range (H <sub>2</sub> O):	1 to 2000L
Viscosity max.:	5000mPas
Speed range (under load):	3500 to 24000rpm.
Speed control:	stepless
Speed display:	LED
Noise without element:	73dB (A)
Dimensions (WxDxH):	65 x 80 x 240mm
Supply requirements:	230 V 50/60Hz.
Weight:	1.6kg
Protection class DIN EN60529:	IP20
Tested to DIN EN IEC 61010-1.	

Type	PK	Cat. No.
T 25 digital ULTRA-TURRAX®	1	9.570 845
T 25 digital ULTRA-TURRAX® UK	1	6.230 570

### Dispersing heads for T25 basic Ultra-Turrax®

Plastic dispersing heads: Autoclavable.

IKA

Stainless steel dispersing heads: Ultimate fineness: emulsions 1µm to 10µm and suspensions 5µm to 50µm, sterilisable by all methods.

Type	Diam. rotor / stator mm	Max. immersion depth mm	Working volume ml	Material	PK	Cat. No.
S 25 D-10 G-KS	6.75 / 10	85	10 - 100	PC, PEEK	10	9.570 859 <b>1</b>
S 25 D-14 G-KS	9.5 / 14	85	10 - 500	PC, PEEK	10	9.570 861 <b>2</b>
S 25 N - 8 G	6.1 / 8	85	1 - 50	PTFE, AISI 316L	1	9.571 098
S 25 N - 10 G	7.5 / 10	85	1 - 100	PTFE, AISI 316L	1	9.571 207
S 25 N - 18 G	12.7 / 18	165	10 - 1500	PTFE, AISI 316L	1	9.571 119
S 25 NK - 19 G	12.7 / 19	165	25 - 1500	PTFE, AISI 316L	1	9.571 121
S 25 KV - 25 G	17.0 / 25	225	50 - 2000	FFPM / SIC, AISI 316L	1	9.571 198
S 25 N - 25 G	17.0 / 25	165	50 - 2000	PTFE, AISI 316L	1	9.571 200 <b>3</b>
S 25 N - 25 F	18.0 / 25	165	100 - 2000	PTFE, AISI 316L	1	9.571 201
S 25 KV - 25 F	18.0 / 25	225	100 - 2000	FFPM / SIC, AISI 316L	1	9.571 199

Further dispersing heads are available on request.

**1**



9.570 859

**2**



9.570 861

**3**



9.571 200

### 4 High-power homogenizer, Ultra Turrax® T50 basic

High-performance dispersing instrument for volumes from 0.25L - 30L (H<sub>2</sub>O).

IKA

- Three types of shaft bearings
- Several rotor-stator configurations
- Agitator shaft R50 allows the use of the T50 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 T50 basic is equipped with a connection for the revolution counter

#### Specifications

Motor rating, input/output:	1100/700W
Volume range (water):	0.25 to 30L
Max. viscosity:	5000mPas
Speed adjustment:	stepless
Speed range:	500 to 10000rpm.
Speed stability:	1%
Diameter/length of extension arm	16 mm/220mm
Overload protection:	yes
Speed display:	scale
Noise without dispersing element:	72 dB (A)
Dimensions (WxDxH):	125 x 120 x 367mm
Weight:	6kg
Protection class DIN EN 60529:	IP20
Supply requirements:	230V 50/60Hz.
Tested to DIN EN IEC 61010-1.	

**4**



Type	PK	Cat. No.
T 50 basic ULTRA-TURRAX®	1	9.570 850
T 50 basic ULTRA-TURRAX® UK	1	4.008 129

Optional accessories: Dispersing heads, Stands: R 2722, R 2723, R 271 Bosshead, RH 5 Strap clamp

Accessories please see page 531





### Dispersing heads for T50 basic ULTRA-TURRAX®

Stainless steel dispersing heads

IKA

Type	Diam. rotor / stator mm	Max. immersion depth mm	Working volume l	Ult. fineness suspensions / emulsions µm	Material	PK	Cat. No.
S 50 N - G 45 G*	36,0 / 45	250	0.5 to 20	40 to 100	PTFE, AISI 316L	1	9.570 882 <b>1</b>
S 50 N - G 45 M*	40.5 / 45	250	0.5 to 15	25 to 50	PTFE, AISI 316L	1	9.570 886 <b>2</b>
S 50 N - G 45 F*	40.0 / 45	250	0.25 to 10	10 to 30	PTFE, AISI 316L	1	9.570 896 <b>3</b>

\* sterilisable by all methods

Further dispersing heads are available on request.



### Special dispersing heads for disperser T50 basic

#### R 50 "high speed" stirring shaft

IKA

Using the R 50 stirring shaft, the T50 basic is quickly converted into a high speed stirrer. 700W power and 10000rpm are provided for rapid mixing, dissolving, and breaking up 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.

#### S 50 N - W 80 SMK Jet mixer head

For shortening mixing and dissolving times. The vertical flow and the high tangential speed, up to 10000rpm, 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, accreted substances.

#### S 50 N - W 65 SK Cutting head

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

Type	Max. immersion depth mm	Working volume l	PK	Cat. No.
R 50	180	0.25 to 30	1	9.571 350 <b>4</b>
S 50 N - W 80 SMK	350	1 to 50	1	9.570 926 <b>5</b>
S 50 N - W 65 SK	350	1 to 10	1	9.570 922 <b>6</b>



Type	Volume range L	Rotor dia. mm	PK	Cat. No.
R 1405 Propeller	0.25 to 30	45	1	9.197 053 <b>7</b>
R 1402 Dissolver	1 to 30	42	1	9.197 055 <b>8</b>



### 1 Homogenizer, Ultra-Turrax® T65 D 1

High-performance dispersing instrument designed for typical college laboratory quantities of 2L to 50L (H<sub>2</sub>O). IKA

- powerful three-phase motor
- three rotor/stator configurations available for diverse fields of application (not included with unit)
- plug-in dispersing elements make changes simple
- speed regulator available - details on request
- dispersing heads for production applications available - details on request
- supplied without cable and plug



#### Specifications

Motor rating, input/output:	1800/150W
Processing volume (H <sub>2</sub> O):	2L to 50L
Suitable for viscosities up to:	5000mPas
Speed, fixed:	7200rpm
Speed stability:	5%
Noise (without dispersing element):	75dB (A)
Dimensions WxDxH:	190 x 580 x 380mm
Weight:	28kg
Protection class per DIN EN 60529:	IP 54
Supply requirements:	400V 50Hz 3ph. 230V 60Hz 3ph.

Tested to DIN EN IEC 61010-1.

Type	PK	Cat. No.
T65D Ultra-Turrax®	1	9.570 505

### Dispersion tools for Ultra-Turrax® T65D

Sterilisable by wet chemical method only. IKA

Stator diameter:	65mm
Rotor diameter:	58mm
Material:	FFPM/SIC, AISI 316L

Type	Working volume	Ult. fineness suspensions / emulsions µm	Figure	PK	Cat. No.
S 65 KG-HH-G 65 G	2 to 50	25 to 75 / 5 to 25	a	1	9.570 933 <span style="color: red;">2</span>
S 65 KG-HH-G 65 M	2 to 40	20 to 50 / 5 to 15	b	1	9.570 934 <span style="color: red;">3</span>
S 65 KG-HH-G 65 F	2 to 30	5 to 20 / 1 to 10	c	1	9.570 935 <span style="color: red;">4</span>



### Stands and fittings for Dispersers T 10/T 18/T 25/T 50/T 65 D

IKA

Type	Description	Rod dia. mm	Height mm	For model	PK	Cat. No.
R 104	Stand	10	370	T 10	1	7.631 971 <span style="color: red;">5</span>
H 44	Bosshead			T 10	1	9.232 994 <span style="color: red;">6</span>
R 200	Clamp			T 10	1	6.225 158 <span style="color: red;">7</span>
R 1825	Stand with baseplate	16	560	T 18 / T 25	1	9.224 031 <span style="color: red;">8</span>
RH 5	Strap clamp			T 50	1	9.224 762
R 1826	Stand with baseplate	16	800	T 18 / T 25	1	9.224 032
R 1827	Stand with baseplate	16	1000	T 18 / T 25	1	9.224 033
R 182	Bosshead			T 18 / T 25	1	9.224 292 <span style="color: red;">9</span>
RH 3	Strap clamp			T 18 / T 25	1	9.224 761 <span style="color: red;">10</span>
R 2722	H-stand	34	1010	T 50	1	9.224 026
R 2723	Telescopic stand	34	620 - 1010	T 50	1	9.224 028
R 271	Bosshead			T 50	1	9.224 266
T 653	Telescopic stand	48	1200	T 65 D	1	7.018 235



## Mixing, Homogenisation/Ultrasonic homogenizers

1



### 1 Ultrasonic Homogenizer SONOPULS mini20

Bandelin

- pulse: ON cycles 0.1 to 60 secs.; OFF cycles 0.2 to 60 secs.
- time modes, safety shut down: 59min, 59s
- energy monitoring in kJ
- remote control with PC: RS232 (infrared)
- HF power: max. 20W<sub>eff</sub>
- processing frequency 30kHz
- electrical supply data: 230 V~, 50/60 Hz

Ready-to-operate for volumes from 0.1 ml to 25ml, consisting of HF generator mini20, ultrasonic converter mini20 and microtip MS 2.5, diameter 2.5mm. Max. 12W<sub>eff</sub> HF output. Automatic amplitude control.

<b>HF generator</b>	<b>GM mini20</b>
Dimensions:	250 x 256 x 154mm
Weight:	2.0kg
<b>Converter</b>	<b>UW mini20</b>
Dimensions, dia. x H:	Approx. 50mm x 160mm
Weight:	270g
Titanium probes:	1.5mm and 2.5mm diameter

Type	PK	Cat. No.
SONOPULS mini20	1	9.650 160

2



### 2 Ultrasonic homogenizers, Sonopuls HD 2070/HD 2200

Bandelin

For cell disruption, emulsification and homogenising of materials, liquid degassing, dispersion, extraction and for sonochemistry. Amplitude adjustable from 10 to 100%. Values can be monitored on the digital display. Pulsation time and data can be stored in the integrated memory. Processing frequency: 20 kHz, which is particularly effective. Fail-safe protection against operating when sample vessel empty and during continuous operation. For 230V 50/60Hz supplies, alternatively available for 115V~, 50/60Hz supplies on request. CE-marked, also as a medical device compliant to the in-vitro diagnostics directive 98/79/EG.

On/off switch control:	Possible directly at the converter, at the ultrasonic generator or via remote control (foot switch)
Amplitude adjustment:	Electronically stabilised from 10 to 100%, ±1%
Pulsation control:	10 to 100% permits heat dissipation when processing sensitive samples
Timer:	1 sec. to 99 mins. : 59 sec. or continuous operation

3



### 3 Ultrasonic homogenizer, SONOPULS HD 2070

Bandelin

For volumes from 2ml to 50ml. Ready to operate, standard unit with GM 2070 generator, UW 2070 ultrasonic converter, SH 70 G titanium stepped horn probe with external thread and MS 73 3 mm diameter micro tip. HF-output: max. 70 W<sub>eff</sub>. Titanium probes for other volumes (1ml to 200ml) are available with probes from 2mm to 13mm diameter.

Type	PK	Cat. No.
SONOPULS HD 2070	1	9.650 180
HD 2070 (stand and vessel are not included in delivery).		

4



### 4 Ultrasonic homogenizer, SONOPULS HD 2200

Bandelin

For volumes from 20ml to 900ml. Ready-to-operate standard unit with GM 2200 generator, UW 2200 ultrasonic converter, SH 213 G booster horn with external thread and diameter 13mm titanium tip TT 13. HF-output: max. 200 W<sub>eff</sub>. Titanium probes for other volumes (2ml to 1000ml) are available with probes from diameter 2mm to 25mm.

Type	PK	Cat. No.
SONOPULS HD 2200	1	9.650 185
HD 2200 (stand and vessel are not included in delivery).		

### Ultrasonic homogenizers, SONOPULS HD 3100/ 3200/3400

Bandelin

- Amplichron® control
- amplitude setting adjustable in % or alternatively power control in W
- Working frequency 20 kHz
- Pulsation: operation intervals from 0.2 s up to 600 secs, rest intervals from 0.3 secs up to 600 secs
- Timer 9 h: 59 min: 59 secs
- Display of energy delivered to the sample in kJ
- 9 user programmes
- Probe monitoring (of specific probes)
- Automatic amplitude limiting after preselection of the probe
- Temperature indication from 0 up to 120°C (248°F), either with unit shutdown or alarm indication when the maximum temperature is exceeded, using optional temperature sensor
- WINPULS® remote control for process organisation with PC via RS232 and IR interfaces with IR adapter
- Backlit graphics LCD readout
- 230V~, 50/60Hz or 115V~, 50/60Hz

SONOPULS ultrasonic homogenizers are CE-marked, also as a medical device compliant to the in-vitro diagnostics directive 98/79/EG.

**Applications:** Disruption of highly-resistant bacteria, cells or tissues - Production of fine emulsions - Homogenization - Degassing of liquids - Sample preparation for grain size analysis - catalysis of chemical reactions

HD 3100/HD 3200 (stand and vessel are not included in delivery)

#### 1 Ultrasonic homogenizer, Sonopuls HD 3100

Bandelin

**High-Tech for research - using small volumes.**

For samples from 2 ml to 50ml, ready-to-operate standard set with GM 3100 generator, UW 3100 ultrasonic converter, SH 70 G standard horn and MS 73 microtip, diameter 3 mm.

Max. 100W HF-output. - Processing frequency 20kHz. - for 230V 50/60Hz or 115V 50/60Hz supplies - For volumes from 1 ml to 200ml - 5 titanium probes, 2mm to 13mm diameter, are available.

<b>HF generator</b>	<b>GM 3100</b>
Dimensions:	250 x 256 x 170mm
Weight:	2.0kg
<b>Converter</b>	<b>UW 3100</b>
Dimensions:	70 x 120mm diameter
Weight:	1kg
Titanium probes*:	2mm, 3mm, 6mm, 13mm diameter

Type	PK	Cat. No.
SONOPULS HD 3100	1	9.650 170

\* on request

HD 3100 (stand and vessel are not included in delivery)



#### 2 Ultrasonic homogenizer, SONOPULS HD 3200

Bandelin

**High-Tech for research - using larger volumes**

For volumes from 20ml to 900ml, ready-to-operate standard set with generator GM 2200, ultrasonic converter UW 2200, booster horn SH 213 G and flat titanium tip TT 13 diameter 13 mm.

Max. 200W HF-output. - Processing frequency 20kHz. - For 230V 50/60Hz or 115V 50/60Hz supplies - For volumes from 2ml to 1000ml - 8 titanium probes available from 2mm to 25mm diameter.

<b>HF generator</b>	<b>GM 3200</b>
Dimensions:	250mm x 256mm x 170mm
Weight:	2.7kg
<b>Converter</b>	<b>UW 3200</b>
Dimensions:	70 diameter x 120mm
Weight:	1kg
Titanium probes (diameter):	2mm, 3mm, 6mm, 13mm, 19mm, 25mm

Type	PK	Cat. No.
SONOPULS HD 3200	1	9.650 175

\* on request

HD 3200 (stand and vessel are not included)



# 5. Sample preparation

## Mixing, Homogenisation/Ultrasonic homogenizers



### 1 Ultrasonic Homogenizer Sonopuls HD 3400

#### High tech for research and pilot plant stations

Bandelin

Ready-to-operate, basic unit for 100ml to 2500ml volumes consisting of generator GM 3400, ultrasonic converter UW 3400, threaded booster horn SH 3425 G and probe VS 200 T, 25mm diameter VS 190, T 19mm diameter on request. HF out put max. 400W<sub>eff</sub>.

<b>HF generator</b>	<b>GM 3400</b>
Dimensions:	324 x 230 x 131mm
Weight:	31kg
<b>Converter</b>	<b>UW 3400</b>
Dimensions, dia. x H:	90 x 180mm
Weight	2.2kg
Titanium probes*:	19.25mm diameter

Type	PK	Cat. No.
SONOPULS HD 3400	1	9.650 195

\* on request  
HD 3100/HD 3200 (stand and glas not included in delivery)



### Booster horns and stepped horns for SONOPULS Ultrasonic homogenizers, titanium alloy

Booster horns, stepped horns (titanium alloy) for connection of interchangeable sonotrodes (probes). Further booster horns are available on request.

Bandelin

Type	Dia. For mm	PK	Cat. No.
Booster horn SH 213 G	13 HD 2200 / HD 3200	1	9.650 208 <b>2</b>
Booster horn SH 219 G	19 HD 2200 / HD 3200	1	9.650 218 <b>3</b>
Booster horn SH 225 G	25 HD 2200 / HD 3200	1	9.650 217 <b>4</b>
Stepped horn SH 70 G	13 HD 2070 / HD 3100	1	9.650 205 <b>5</b>
Booster horn SH 3419	19 HD 3400	1	9.650 204
Booster horn SH 3425	25 HD 3400	1	9.650 209

### Ultrasonic homogenizers, SONOPULS, accessories

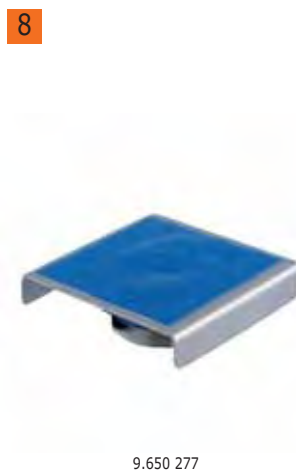
Stainless steel stands HG 5/10, with base plate.

Bandelin

Clamping device KL 7 with rod, swivelling clamp and quick clamp for reaction vessels of 15mm to 100mm diameter.

Support table AT 7 suitable for KL 7 or in LS 8 and LS 10, for the safe stationing of ultrasonic irradiation vessels.

Type	Description	For	PK	Cat. No.
HG 5	Stainless steel stand	HD 2070/ 3100 / 2200 / 3200	1	9.650 273 <b>6</b>
HG 10	Stainless steel stand	HD 3400	1	9.650 275
KL 7	Clamping device	HG 5 / HG 10	1	9.650 276 <b>7</b>
AT 7	Support table	KL 7 or LS 8 / LS 10	1	9.650 277 <b>8</b>



### Probes for Sonopuls Ultrasonic homogenizers, titanium

Titanium probes.

Bandelin

For connection to stepped horns/booster horns.

Type	Dia. mm	Tip	For	For bottle ml	For	PK	Cat. No.
MS 72	2.0	microtip	SH 70 G SH 213 G	1 - 25 2 - 30	HD 2070 / 2200 HD 3100 / 3200	1	9.650 244
MS 73	3.0	microtip	SH 70 G SH 213 G	2 - 50 5 - 90	HD 2070 / 2200 HD 3100 / 3200	1	9.650 245 <b>1</b>
KE 76	6.0	tapered tip	SH 70 G SH 213 G	5 - 100 10 - 350	HD 2070 / 2200 HD 3100 / 3200	1	9.650 246 <b>2</b>
TT 13	13.0	titanium flat tip	SH 70 G SH 213 G	10 - 200 20 - 900	HD 2070 / 2200 HD 3100 / 3200	1	9.650 250
TT 13 FZ	13.0	titanium flat tip with hole	FZ 5 G FZ 7 G	-	HD 2200 / 3200	1	9.650 247
TT 19	19.0	titanium flat tip	SH 219 G	25 - 900	HD 2200 / 3200	1	9.650 248
TT 25	25.0	titanium flat tip	SH 225 G	30 - 1000	HD 2200 / 3200	1	9.650 249
VS 70 T	13.0	probe long	SH 70 G SH 213 G	10 - 200 20 - 900	HD 2070 / 2200 HD 3100 / 3200	1	9.650 239 <b>3</b>
VS 190 T	19.0	probe long	SH 219 G SH 3419	25 - 900 500 - 1500	HD 2200 / 3200 HD 3400	1	9.650 243
VS 200 T	25.0	probe long	SH 225 G SH 3425	30 - 1000 500 - 2500	HD 2200 / 3200 HD 3400	1	9.650 240
MS 1.5	1.5	microtip	UW mini20	0,1 - 10	Sonpuls mini20	1	9.650 165
MS 2.5	2.5	microtip	UW mini20	0,5 - 25	Sonpuls mini20	1	9.650 166



9.650 245

9.650 246

9.650 239

### 4 Flow-through standard horn for Sonopuls Ultrasonic homogenizers

- Flow-through standard horn FZ 5 G with external screwthread and titanium flat tip TT 13 FZ.
- Flow-through standard horn FZ 7 G with external screwthread and titanium flat tip TT 13 FZ.

Bandelin

Type	For	PK	Cat. No.
FZ 5 G	HD 2070 / HD 3100	1	9.650 241
FZ 7 G	HD 2200 / HD 3200	1	9.650 242



### 5 Flow-through cell for SONOPULS Ultrasonic homogenizers, stainless steel

Flow-through cell for continuous flow-through processing. Stainless steel, sealed, vibration-free reaction vessel with cooling jacket. For connection to SH 70 G or SH 213 G with TT 13. For HD 2070, HD 2200, HD 3100 and HD 3200 homogenisers. Flow rate up to 30 L/hr.

Bandelin

Type	PK	Cat. No.
DG 4 G (flow-through)	1	9.650 269



### 6 Ultrasonic processing vessels for SONOPULS Ultrasonic homogenizers, plastic

Ultrasonic processing vessels. Plastic. For indirect ultrasonic irradiation. If BB 2 G is ordered, titanium flat tip TT 13 is required. BB 6 fits directly to UW 2200/UW 3200. Microtube holder EH6. Stainless steel. For simultaneous, contact-free ultrasonic irradiation of up to 6 samples using the ultrasonic homogeniser HD 2200/HD 3200 and ultrasonic processing vessel BB 6.

Bandelin

Type	For	PK	Cat. No.
BB 2 G	HD 2070 / HD 3100	1	9.650 253
BB 6	HD 2200 / HD 3200	1	9.650 254
EH 6	BB6	1	9.650 258



# 5. Sample preparation

## Mixing, Homogenisation/Ultrasonic homogenizers

1



### 1 Sleeve adapters for Sonopuls Ultrasonic homogenizers, PTFE

PTFE sleeve adapters for mounting probes into standard ground joint vessels. For use with HD 2070/2200/3100/3200 homogenisers  
 - NA 29 G: for vessels with standard ground joint 29/32 and for SH 70/213 G horns  
 - NA 45 G: for vessels with standard ground joint 45/40 and for SH 70/213/219/225 G horns

Bandelin

Type	PK	Cat. No.
NA 29 G	1	9.650 228
NA 45 G	1	9.650 229

2



9.650 190

### Ultrasonic homogenizer cup booster BR 30 for SONOPULS HD 2070/ 2200/ 3100/ 3200

For Sonopuls HD 2070, HD 2200, HD 3100 and HD 3200.  
 - BR 30 cup booster enables highly intensive sonication of small samples, e.g. radioactively-contaminated seeds, maceration of cells or sonication of pathogenic or toxic substances.  
 - EH 3: Microtube holder for BR 30 for simultaneous sonication of up to 3 samples.

Bandelin

#### Specifications

Beaker capacity:	12ml
Int. height:	15mm
Int. diameter:	32mm
Max. ultrasound intensity:	3100 W/L (HD 2200/3200)
Material:	Titanium alloy

3



9.877 745

Type	PK	Cat. No.
BR 30	1	9.650 190 <b>2</b>
EH 3	1	9.877 745 <b>3</b>

Converter and stand are not included.

### Accessories for SONOPULS Ultrasonic homogenizers HD 2200, glass

**NEW!**

Glass sample vessels for direct ultrasonic irradiation.

Bandelin

Type	For probes up to Ø mm	Capacity ml	For	PK	Cat. No.
KG 3 cooling vessel	13	15	HD 2070/2200/3100/3200	1	9.650 235 <b>4</b>
KG 5 cooling vessel	25	70	HD 2200/3200	1	9.650 223
DG 3 flow-through vessel with cooling jacket	13	15	HD 2070/2200/3100/3200	1	9.650 236 <b>5</b>
DG 5 flow vessel with cooling jacket	25	70	HD 2200/3200	1	9.650 224
RZ 1 rosett cell	13	25	HD 2070/2200/3100/3200	1	9.650 267
RZ 2 rosett cell	13	40	HD 2070/2200/3100/3200	1	9.650 268
RZ 3 rosett cell	13	110	HD 2070/2200/3100/3200	1	9.650 261 <b>6</b>
RZ 4 rosett cell	25	390	HD 2200/3200/3400	1	9.650 260
RZ 5 rosett cell	25	660	HD 2200/3200/3400	1	9.650 264
SZ 3 Suslick cell	13	20	HD 2070/2200/3100/3200	1	9.650 262
SZ 5 Suslick cell	25	110	HD 2200/3200	1	9.650 265

4



9.650 235

5



9.650 236

E & OE.

6



9.650 261

### 1 Sound proof boxes LS series

**NEW!**

Bandelin

Provides considerable noise level reduction.

LS 4: Made of plastic-coated walls. 10dB(A) damping.

LS 8/11: Made of stainless steel, with damping plates. 20dB(A) damping. With rod, swivelling clamp and bosshead for height adjustment of sample vessels.

Type	For	PK	Cat. No.
LS 4	HD 2070 / 2200 / 3100 / 3200	1	9.650 271
LS 8	HD 2070 / 2200 / 3100 / 3200	1	9.650 281
LS 11	HD 3400	1	9.650 282



### Accessories for sound proof box LS 8

For sonification using the BR 30 cup booster, support frame UG 6 allows BB 6 or BB 2G acoustic irradiation cups to rotate through 180° within the LS 8 noise protection box (not included with main instrument). Material: PTFE-coated, lacquered aluminium support with PTFE feet. Ultrasonic converter UW 2070/2200/3100/3200 can be securely attached using the rapid snap fastener.

Bandelin

Description	PK	Cat. No.
Support UG 6 for LS 8	1	9.650 238 <b>2</b>
Spacer AH 6 for LS 8*	1	9.650 225 <b>3</b>

\* Required for direct sonification using long probes.



### 4 Ultrasonic Processor UP50H/UP100H

For manual operation or for stand use, frequency 30kHz, automatic frequency tuning system, amplitude adjustable 20% to 100%, pulse 0 to 100%, dry running protected, in portable case, with mounting for stand STH-16 and mounting tools, 230V a.c.

Hielscher Ultrasonics

Type	Rating W	PK	Cat. No.
UP50H	50	1	9.106 600 <b>5</b>
UP100H	100	1	6.235 231 <b>6</b>



### Accessories for Ultrasonic Processor UP50H/UP100H

Sonotrode MS1, made of titanium, approx. length 80mm  
 Sonotrode MS3, made of titanium, approx. length 80mm  
 Sonotrode MS7, made of titanium, approx. length 80mm  
 Sonotrode MS10, made of titanium, approx. length 80mm (only for UP100H)

Hielscher Ultrasonics

Stand ST1-16, pole diameter 16mm, made of stainless steel, base (L x W x H) 300 x 150 x 600mm  
 Sound Protection Box SB2-16, with adjustable table and 16mm stand pole  
 Timer T1, from 00:00 to 99:59 (min:sec)

Type	Tip	For bottle ml	PK	Cat. No.
MS1	dia. 1mm	0,1 - 5,0	1	9.106 602
MS3	dia. 3mm	5,0 - 100	1	4.005 989
MS7	dia. 7mm	10,0 - 250	1	9.106 604
MS10	dia. 10mm	20,0 - 500	1	4.005 990
ST1-16			1	6.226 573
SB2-16			1	6.235 330
T1			1	6.235 003



## Mixing, Homogenisation/Ultrasonic homogenizers



### 1 Compact ultrasonic processor UP200S

Stand mounting, compact, robust unit, 200W, frequency 24kHz. With automatic frequency scanning system, amplitude adjustable 20% to 100%, pulse adjustable 0 to 100% and dry-running protected. Supplied in carrying case with mounting tools but without sonotrodes (probes). A wide range of accessories are available on request (sonotrodes, sound protection, PC control, etc.).

Hielscher Ultrasonics

Type	PK	Cat. No.
UP200S	1	9.106 606



### 2 Sonotrode for compact ultrasonic processor UP200S

Hielscher Ultrasonics

Type	Tip	For bottle ml	PK	Cat. No.
S1	dia. 1mm	0.1 to 5ml	1	9.106 607
S3	dia. 3mm	5 to 200ml	1	9.106 608
S7	dia. 7mm	20 to 500ml	1	9.106 609
S14	dia. 14mm	50 to 1000ml	1	9.106 610
S14D*		5 to 25L/h	1	9.106 611

\* with glass flow vessel GD14K.



### 3 Ultrasonic Processor UP200H

For manual operation or for stand use, 200W, frequency 24kHz, automatic frequency tuning system, amplitude adjustable 20% to 100%, pulse 0 to 100%, dry running protected, in portable case, with mounting tools, 230V a.c.

Hielscher Ultrasonics

Type	PK	Cat. No.
UP200H	1	4.005 991



### 4 Accessories for Ultrasonic Processor UP200H

Hielscher Ultrasonics

Sonotrode S3, titanium, approx. length 100mm  
 Sonotrode S7, titanium, approx. length 100mm  
 Sonotrode S14, titanium, approx. length 100mm  
 Sonotrode S40, titanium, approx. length 100mm

Stand ST1-16, rod diameter 16mm, stainless steel, base (L x W x H) 300 x 150 x 600mm  
 Sound Protection Box SB3-16, with adjustable table and 16mm stand pole  
 Timer T1, from 00:00 - 99:59 (min:sec)

Type	Tip	For bottle ml	PK	Cat. No.
S3	dia. 3mm	5.0 - 200	1	9.106 608
S7	dia. 7mm	20 - 500	1	9.106 609
S14	dia. 14mm	50 - 1000	1	9.106 610
S40	dia. 40mm	100 - 2000	1	4.005 992
ST1-16			1	6.226 573
SB3-16			1	6.227 896
T1			1	6.235 003

### 1 SonoStep Set

Ultrasonic processor, 100W, ultrasonic frequency 30kHz, microprocessor controlled, automatic frequency tuning system, amplitude adjustable from 20% to 100%, adjustable propeller output signal 20% to 100%, dry running protected, with 15-pin interface (0 to 10V), mounting tools, stainless-steel housing, IP65 grade, titanium resonator, thermocouple (AISI316Ti) with digital display, digital power-meter, O-Rings made of EPDM, detachable stainless steel rotor (AISI316Ti) for pumping and stirring, acrylic shield for noise reduction and spill protection, Dimensions (L x W x H): 280mm x 210mm x 350mm, 230V a.c.

*Hielscher Ultrasonics*

Type	PK	Cat. No.
SonoStep Set	1	4.006 005
Timer T2	1	4.006 006

1



### 2 Ultrasonic Processor UIS250v for Eppendorf tubes

For handheld operation or for stand use, 250W. Ultrasonic frequency 24kHz, automatic frequency tuning system, amplitude adjustable from 20% to 100%, pulse adjustable from 0 to 100%, dry running protected, transducer protected to IP40 level, 230V a.c.

*Hielscher Ultrasonics*

Type	PK	Cat. No.
UIS250v	1	4.005 993

2



### 3 4 Accessories for Ultrasonic Processor UIS250v

Sonotrode LS24d3, titanium, approx. length 100mm  
 Sonotrode LS24d5, titanium, approx. length 100mm  
 Sonotrode LS24d10, titanium, approx. length 100mm  
 Sonotrode VT24d10, titanium, with 1 bore hole diameter 10mm for sonication of one vial (outer diameter 10mm)  
 Sonotrode VialTweeter, titanium, with bores and clamping fixture for the sonication of up to 8 x 1.5ml Eppendorf tubes

*Hielscher Ultrasonics*

Stand ST1-16clamp, rod diameter 16mm, made of stainless steel, base (L x W x H): 300 x 150 x 600mm  
 Timer T1, from 00:00 to 99:59 (min:sec)

Type	Tip	For bottle ml	PK	Cat. No.
LS24d3	dia. 3mm	5.0 - 200	1	4.005 994
LS24d5	dia. 5mm	20 - 300	1	4.005 995
LS24d10	dia. 10mm	50 - 1000	1	4.005 996
VT24d10	dia. 10mm		1	4.005 997
VialTweeter			1	4.005 998
ST1-16Clamp			1	4.005 999
T1			1	6.235 003

3



4



### 5 Ultrasonic Processor UIS250L for sieving

250W, ultrasonic frequency 24kHz, automatic frequency tuning system, amplitude adjustable from 20% to 100%, pulse adjustable from 0 to 100%, dry running protected, IP40 grade transducer, 230V a.c.

*Hielscher Ultrasonics*

Type	PK	Cat. No.
UIS250L	1	4.006 001

5



**1**


### 1 Accessories for Ultrasonic Processor UIS250L

Ring sonotrode RIS200, H = 35mm, for the use of standard laboratory test sieves (DIN ISO 3310/1)

*Hielscher Ultrasonics*

Ring sonotrode RIS203, H = 35mm, for the use of standard laboratory test sieves (ASTM E 11-95)

Accessories set SZS200 for screens and ring sonotrode, Set: base plate, support rods with quick chuck, catch pan, cover clamping

Type	Dia. mm	PK	Cat. No.
RIS 200	200	1	4.006 002
RIS 203,5	203.5	1	4.006 003
SZS 200	200/203.5	1	4.006 004

**2**


### 2 Shaker, Disruptor Genie®

**NEW!**

*Si Scientific Industries*

For cell disruption and homogenisation. The patented Disruptor Genie provides a multi-directional action, which simultaneously agitates and vortexes at high speed, dramatically increasing cell disruption or sample resuspension efficiency.

- Dramatically increased sample disruption efficiency. Ideal for difficult glass bead procedures (Glass beads - please order separately), cell disruption/homogenisation of yeast, bacteria, plant and animal tissues and pellet resuspensions or anything that requires extremely violent, high-speed agitation.
- Patented multi-directional action simultaneously agitates and vortexes at high-speed producing greater yields in less time
- Hands-Free disruption of up to twelve 1.5ml or 2.0ml microtubes with timer from 0 to 15 minutes or continuous operation
- Performance comparable to expensive ultrasonic cell disruptors/homogenisers.
- Suitable for use in cold rooms or incubators
- Remove the microtube holder and attach the supplied pop-off cup for high-speed vortexing of single test tubes
- Also available as digital version

Supplied with:

- Disruptor Genie
- Tube holder for 12 tubes
- Universal Vortex attachment

#### Specifications

Dimensions (WxDxH): 122 x 165 x 190mm

Weight: 4.3kg

Supply requirements: 220V 50Hz, 250mA

Description	Connector	PK	Cat. No.
Disruptor Genie®, 2ml	EU	1	9.730 092
Disruptor Genie®, 2ml	UK	1	9.730 093
Disruptor Genie®, 1.5ml	EU	1	9.730 095
Disruptor Genie®, 1.5ml	UK	1	9.730 096

**3**


### 3 Accessories for Disruptor Genie®

**NEW!**

Description	PK	Cat. No.
1.5ml Snap-top Microtube Holder	1	9.730 098
2ml Screw-cap Microtube Holder	1	9.730 099
0.1mm Disruptor Beads, 375g	1	9.730 100
0.5mm Disruptor Beads, 375g	1	9.730 101

### 1 Homogenisers, General Purpose

GPE Scientific Limited

- Clear or ground borosilicate glass mortars with a range from 5.0ml to 55ml capacity
- Choice of borosilicate glass pestles with ground glass working length or serrated PTFE pestles
- Standard Stainless steel rod for use with an electric motor
- Optional Stainless steel handle for manual grinding
- All parts are fully autoclavable

Grinding clearance pestle and mortar for PTFE pestles is 0.076mm to 0.126mm and for glass pestles 0.152mm to 0.254mm.

**Order General Purpose range pestles and mortars separately. The pestle and mortars are listed separately, so you can choose either a glass or PTFE pestle for use with the same mortar.**

#### Mortars

Capacity	Mortar L x o.d.	Glass body	PK	Cat. No.
ml	mm			
5	100 x 15	clear	1	9.164 520
10	115 x 17	clear	1	9.164 521
15	120 x 19	clear	1	9.164 522
30	150 x 23	clear	1	9.164 523
55	175 x 31	clear	1	9.164 524
5	100 x 15	ground	1	9.164 525
10	115 x 17	ground	1	9.164 526
15	120 x 19	ground	1	9.164 527
30	150 x 23	ground	1	9.164 528
55	175 x 31	ground	1	9.164 529

#### Pestles

For Mortar	Pestle L x o.d.	Material	PK	Cat. No.
ml	mm			
5	195 x 10	borosilicate glass	1	9.164 530
10	215 x 13	borosilicate glass	1	9.164 531
15	220 x 15	borosilicate glass	1	9.164 532
30	250 x 19	borosilicate glass	1	9.164 533
55	295 x 25	borosilicate glass	1	9.164 534
5	250 x 10	PTFE*	1	9.164 535
10	250 x 13	PTFE*	1	9.164 536
15	250 x 15	PTFE*	1	9.164 537
30	250 x 19	PTFE*	1	9.164 538
55	250 x 25	PTFE*	1	9.164 539

\*with stainless steel rod

Handle for General Purpose homogenisers

Description	PK	Cat. No.
Stainless steel handle for pestles	1	9.164 515

### 2 Homogenisers, Safe-Seal, borosilicate glass/PTFE

**NEW!**

GPE Scientific Limited

Supplied complete with a PTFE pestle, stainless steel handle and borosilicate glass mortar which is stoppered in PTFE to protect against splash back during the grinding process.

Capacity	Pestle L x o.d.	Mortar L x o.d.	PK	Cat. No.
ml	mm	mm		
5	250 x 10	140 x 15	1	9.164 501
10	250 x 13	150 x 17	1	9.164 502
15	250 x 15	155 x 19	1	9.164 503
30	250 x 19	180 x 23	1	9.164 504





### 1 Potter-elvehjem homogenisers, plastic coated NEW!

Uniform plastic coated tissue grinders afford an added measure of safety. Fully autoclavable. Stainless steel handle - please order separately.

GPE Scientific Limited

Capacity	Pestle L x o.d.	Mortar L x o.d.	PK	Cat. No.
ml	mm	mm		
5	250 x 10	100 x 15	2	9.164 510
10	250 x 13	115 x 17	2	9.164 511
15	250 x 15	120 x 19	2	9.164 512
30	250 x 19	150 x 23	2	9.164 513
55	250 x 25	175 x 31	2	9.164 514

### Homogenisers, Handle for Potter-elvehjem NEW!

Handle for Potter-elvehjem homogenisers

Description	PK	Cat. No.
Stainless steel handle for pestles	1	9.164 515



### 2 Homogenisers, Mini series, borosilicate glass NEW!

Manufactured from high quality borosilicate glass this range of mini homogenisers is ideal for micro tissue work. Bodies are clear precision glass. Pestles have ground glass working length. With or without handles. Fully autoclavable. Grinding clearance pestle and mortar 0.152mm to 0.254mm.

GPE Scientific Limited

Capacity	Pestle L x o.d.	Mortar L x o.d.	Description	PK	Cat. No.
ml	mm	mm			
0.1	75 x 3.65	60 x 9	with handle	1	9.164 541
1.0	150 x 5.00	105 x 10	with handle	1	9.164 542
3.0	170 x 9.00	115 x 13	with handle	1	9.164 543
0.1	75 x 3.65	60 x 9	without handle	1	9.164 544
1.0	150 x 5.00	105 x 10	without handle	1	9.164 545
3.0	170 x 9.00	115 x 13	without handle	1	9.164 546



### 3 Homogenisers, Griffiths Tube, Borosilicate glass 3.3, small NEW!

For grinding bacterial emulsions and tissues, tube 90mm to 95mm long, 18mm o.d. narrowing to ground rounded end. Ground half spherical pestle and mortar ends, ensure perfect grinding.

GPE Scientific Limited

Capacity	Pestle L x o.d.	Mortar L x o.d.	PK	Cat. No.
ml	mm	mm		
5	150 x 12	95 x 18	1	9.164 550



### 4 Homogenisers, Griffiths Tube, Borosilicate glass 3.3, large NEW!

Ground pestle and mortar, pestle has projections for coarse grinding. Mortar length 220mm.

GPE Scientific Limited

Capacity	Pestle L x o.d.	Mortar L x o.d.	PK	Cat. No.
ml	mm	mm		
15	305 x 14	225 x 18	1	9.164 551

### 1 Homogenisers, Round Body, glass



The all-glass Uni-Form range of round body tissue grinders is made from sterilisable heat-resisting glass in capacities 5ml to 55ml. Models are available with rod ends for motor drive, or hollow pestles designed for use with coolants/dry ice. Bodies are available in clear precision glass or ground glass for more effective homogenisation of tougher tissues. Grinding clearance pestle and mortar 0.152mm to 0.254mm.

GPE Scientific Limited



Capacity	Pestle L x o.d.	Mortar L x o.d.	Mortar	Pestle	PK	Cat. No.
ml	mm	mm				
5	205 x 10	105 x 15	clear glass	hollow	1	9.164 660
10	225 x 13	130 x 17	clear glass	hollow	1	9.164 661
15	240 x 15	140 x 19	clear glass	hollow	1	9.164 662
30	295 x 19	170 x 23	clear glass	hollow	1	9.164 663
55	330 x 25	205 x 31	clear glass	hollow	1	9.164 664
5	205 x 10	105 x 15	clear glass	with rod end	1	9.164 665
10	225 x 13	130 x 17	clear glass	with rod end	1	9.164 666
15	240 x 15	140 x 19	clear glass	with rod end	1	9.164 667
30	295 x 19	170 x 23	clear glass	with rod end	1	9.164 668
55	330 x 25	205 x 31	clear glass	with rod end	1	9.164 669
5	205 x 10	105 x 15	ground glass	hollow	1	9.164 670
10	225 x 13	130 x 17	ground glass	hollow	1	9.164 671
15	240 x 15	140 x 19	ground glass	hollow	1	9.164 672
30	295 x 19	170 x 23	ground glass	hollow	1	9.164 673
55	330 x 25	205 x 31	ground glass	hollow	1	9.164 674
5	205 x 10	105 x 15	ground glass	with rod end	1	9.164 675
10	225 x 13	130 x 17	ground glass	with rod end	1	9.164 676
15	240 x 15	140 x 19	ground glass	with rod end	1	9.164 677
30	295 x 19	170 x 23	ground glass	with rod end	1	9.164 678
55	330 x 25	205 x 31	ground glass	with rod end	1	9.164 679

For our Life Science produkt range - please see page 1165



### 2 Homogenisers, Dounce, glass



For fine particle size reductions without damage to cell nuclei. Supplied with interchangeable pestles ground and polished to large and small clearances for use in the same tube. Includes 2 larges pestle used for sample preparation and 2 tight pestles for final homogenate.

GPE Scientific Limited



Capacity	Pestle L x o.d.	Mortar L x o.d.	PK	Cat. No.
ml	mm	mm		
1	117 x 7.5	82 x 12	1	9.164 690
7	175 x 13	125 x 17	1	9.164 691
15	210 x 15	160 x 19	1	9.164 692
40	285 x 25	210 x 31	1	9.164 693

### 3 Homogenisers, Duo-Form, Borosilicate glass 3.3



The pestles are conically shaped at the tip and cylindrically shaped in the upper part. This combination gives two separate areas, one for initial grinding and a second for final homogenisation.

GPE Scientific Limited



Capacity	Pestle L x o.d.	Mortar L x o.d.	Mortar	Pestle	PK	Cat. No.
ml	mm	mm				
15	250 x 15	155 x 19	ground	with rod	1	9.164 680
15	250 x 15	155 x 19	clear glass	with rod	1	9.164 681
15	250 x 15	155 x 19	ground	with handle	1	9.164 682
15	250 x 15	155 x 19	clear glass	with handle	1	9.164 683

**1**


### 1 Dual homogenisers, with glass pestle

With conical and cylindrical area for effective tissue for grinding and also for homogenising. Especially suitable for cellular tissue such as muscle, heart and lungs. The pestle is sufficiently stable to be motor driven. The space between the pestle and mortar is between 0.1mm to 0.15mm. Spare components are available and are completely interchangeable.

Size	Capacity	Pestle L x o.d.	Mortar L x o.d.	PK	Cat. No.
	ml	mm	mm		
20	1	155 x 6	80 x 13	1	9.651 637
21	3	207 x 6	120 x 16	1	9.651 638
22	5	220 x 8	150 x 18	1	9.651 639
23	15	278 x 10	175 x 25	1	9.651 641
24	30	310 x 10	215 x 32	1	9.651 642
25	50	345 x 16	225 x 38	1	9.651 643

**2**


### 2 Dual homogenisers, with PTFE pestle

With conical and cylindrical area for effective tissue for homogenising. The PTFE pestle is ideal for soft tissue such as brain or liver. The pestle is suitable for motor drive. The space between the pestle and mortar is between 0.1mm to 0.15mm. Spare components are available and are completely interchangeable.

Size	Capacity	Mortar L x o.d.	Pestle L x o.d.	PK	Cat. No.
	ml	mm	mm		
20	1	155 x 4.5	80 x 13	1	9.651 656
21	3	210 x 6	120 x 16	1	9.651 657
22	5	228 x 6	150 x 18	1	9.651 658
23	15	268 x 6	175 x 25	1	9.651 659
24	30	305 x 10	215 x 32	1	9.651 660
25	50	330 x 10	225 x 38	1	9.651 661

**3**


### 3 Potter-elvehjem homogenisers, with glass pestle

All-glass. Pestle is suitable for motor drive. The space between the pestle and mortar is between 0.1mm to 0.15mm. Spare components are available and are completely interchangeable.

Size	Capacity	Pestle L x o.d.	Mortar L x o.d.	PK	Cat. No.
	ml	mm	mm		
19	1	145 x 5	95 x 13	1	9.651 674
21	5	205 x 6	140 x 16	1	9.651 675
22	8	215 x 8	150 x 18	1	9.651 676
23	17	265 x 10	175 x 25	1	9.651 677
24	45	315 x 10	220 x 32	1	9.651 678

**4**


### 4 Potter-elvehjem homogenisers, with PTFE pestle

With PTFE pestle and glass mortar. Sizes 21 and 24 have notches on the bottom edge of the pestle so that particles can be transported up to the cylindrical part of the mortar for extraction. The space between the pestle and mortar is between 0.1mm to 0.15mm. Spare components are available and are completely interchangeable.

Size	Capacity	Pestle L x o.d.	Mortar L x o.d.	PK	Cat. No.
	ml	mm	mm		
18	0.5	130 x 3	80 x 12	1	9.651 689
19	1	154 x 5	95 x 12	1	9.651 690
20	3	154 x 5	115 x 12	1	9.651 691
21	5	215 x 6	140 x 15	1	9.651 692
22	8	212 x 6	150 x 19	1	9.651 693
23	17	266 x 6	175 x 25	1	9.651 694
24	45	269 x 6	220 x 32	1	9.651 695

### 1 2 3 Homogenisers with PTFE pestles

Glass homogeniser mortar with conical or cylindrical PTFE pestles mounted on corrosion-resistant, stainless steel shafts. Inert. Resilient. With smooth, wax-like, moisture-repellent surface. Glass-fibre reinforced pestles are available for grinding particularly tough materials.

*schuett-biotec*

For all common homogeniser drives or for schuett homgen<sup>plus</sup>.

- Glass mortar Type 1: With flared overflow neck and spout, conical (Fig. A)
- Glass mortar Type 2: Without flared overflow neck, cylindrical (Fig. B)
- Glass mortar Type 3: With flared overflow neck and spout, cylindrical (Fig. C)

Glass mortar type	Capacity ml	Form	PK	Cat. No.
1	2	PTFE pestle tapered	1	9.651 850
1	15	PTFE pestle tapered	1	9.651 851
1	40	PTFE pestle tapered	1	9.651 852
2	2	PTFE pestle cylindrical	1	9.651 853
2	5	PTFE pestle cylindrical	1	9.651 854
2	10	PTFE pestle cylindrical	1	9.651 855
3	15	PTFE pestle cylindrical	1	9.651 856
2	20	PTFE pestle cylindrical	1	9.651 857
2	30	PTFE pestle cylindrical	1	9.651 858
3	40	PTFE pestle cylindrical	1	9.651 859
2	5	PTFE pestle cylindrical, glass-fibre reinforced	1	9.651 860
2	10	PTFE pestle cylindrical, glass-fibre reinforced	1	9.651 861
3	15	PTFE pestle cylindrical, glass-fibre reinforced	1	9.651 862
2	30	PTFE pestle cylindrical, glass-fibre reinforced	1	9.651 863
3	40	PTFE pestle cylindrical, glass-fibre reinforced	1	9.651 864



### 4 5 6 Homogenisers with glass pestles

Glass homogeniser mortar with glass pestle. With robust glass shaft and ground surface cylindrical or conical pestle heads. Highly efficient for use with tough tissues. For all common homogeniser drives or for schuett homgen<sup>plus</sup>.

*schuett-biotec*

- Glass mortar Type 4: With flared overflow neck and spout, conical (Fig. A)
- Glass mortar Type 5: Round bottom, with flared overflow neck, without spout, cylindrical (Fig. B)
- Glass mortar Type 6: Round bottom, with flared overflow neck, with spout, cylindrical (Fig. C)

Glass mortar type	Capacity ml	Form	PK	Cat. No.
4	2	Glass pestle, tapered	1	9.651 865
4	15	Glass pestle, tapered	1	9.651 866
4	40	Glass pestle, tapered	1	9.651 867
5	8	Glass pestle, cylindrical	1	9.651 868
5	15	Glass pestle, cylindrical	1	9.651 869
6	40	Glass pestle, cylindrical	1	9.651 870







9.197 690

### EPPI pestle for tubes (Pellet)

For homogenising in Eppendorf®-type 1.5ml/2.0ml reaction tubes (exact fit).

*schuett-biotec*

#### EPPI pestle, conical, stainless steel:

Crevice-free, no cross-contamination, easy to clean and autoclaveable. Suitable for operation with liquid nitrogen.

#### EPPI pestle, conical, PP and quick-change chuck (please order separately):

For easy exchange of pestles without stopping the motor when using a semi-automatic. Increases the productivity, no cross contamination with serial samples

For all common homogeniser drives or for schuett homgen<sup>plus</sup>.



9.197 689

Type	Shaft diameter	Length mm	PK	Cat. No.
Stainless steel EPPI pestle	dia. 4.9mm	100	1	<b>9.197 690</b> 1
Polypropylene EPPI pestle	dia. 4.9mm	70	10	<b>9.197 689</b> 2
Quick-change chuck, stainless steel			1	<b>9.197 691</b>



### 3 Homogeniser drive unit, schütt homgen<sup>plus</sup>

For the gentle homogenisation of biological samples or for grinding tough, rigid material which is difficult to break down. Complete with load-compensating drive unit and universal quick-action chuck, transparent Plexiglas cooling jacket and multi-purpose spanner for centring homogenising vessels of varying sizes. Portable, but highly stable and vibration-free due to its triple-post frame construction, and easy to use. Provides high torque, even at the low speed range, ensuring extremely powerful homogenizing. Continuously adjustable speed range: 40rpm to 3000rpm. Provides reproducible homogenising by maintaining constant rotational speed, which is shown on an easy to read, 4-digit LED display. The fast-action clamping chuck with hollow shaft permits rapid and easy replacement of the pestle and allows pestles with longer shafts to be used. We highly recommend using a quick-grip chuck for glass pestles to minimise lateral movement (and therefore strain) of the glass shaft. The cooling jacket incorporates a clamping holder suitable for Eppendorf test tubes and homogenising vessels with outside diameters from 10mm to 40mm. Sample cooling is easily achieved using ice, which can be introduced into the cooling jacket through a screw capped opening. The homogenising vessel moves up and down in conjunction with the cooling jacket platform and is raised and lowered using a lever jack. The long lever facilitates thorough homogenising without much effort.

*schuett-biotec*

For 230V 50/60Hz, 300 W single phase supplies (optionally available for 115V 50/60Hz).

We also offer a sterile alternative for use in a glove box and with infectious material. Details on request.

Type	External dimensions (W x D x H) mm	PK	Cat. No.
schuett homgen <sup>plus</sup> , 230 V	300 x 350 x 888	1	<b>9.651 560</b>
Quick-change chuck for glass pestle	-	1	<b>9.651 564</b>

We can supply this  
**manufacturer's**  
 whole  
**product range !**



*schuett***biotec**.de

### LLG-Micropestles, stainless steel



Polished stainless steel, micropestles. Precise fitting, manufactured in one-piece, smooth handle sections, can be disinfected easily. Minimum homogenate displacement due to tapered piston.

**For Reaction tubes:**

For homogenisation of cells, tissues or foodstuffs/feed samples.

- For tubes with 0.5ml, 1.5ml and 2.0ml
- Can be cooled down to -196°C
- Sterilisable in an autoclave or dry heat at +200°C
- Suitable for PCR applications
- Alternative to single-use plastic pestles

**For Sarstedt tubes:**

Primarily used with food analysis with light and highly processed samples.

- For tubes 13ml

For bottle ml	Length mm	PK	Cat. No.
0.5	94	1	9.314 500
1.5	124	1	9.314 501
2.0	120	1	9.314 502
13.0	190	1	9.314 503



9.314 500



9.314 501



9.314 502



9.314 503

### 5 Disposable micro pestles, PP

Autoclavable polypropylene. Suitable for battery-operated drive motor (9.314 496). Pestle length 7cm. Supplied with microcentrifuge tubes as outlined below.

Description	PK	Cat. No.
Pestle for 0.5ml with microcentrifuge tubes	100	9.314 490
Pestle for 1.5ml with microcentrifuge tubes	100	9.314 491
0.5ml pestle	100	9.314 492
Pestle for 0.5ml with microcentrifuge tubes*	100	9.314 498
Pestle for 1.5ml with microcentrifuge tubes*	100	9.314 499

\*RNase, DNase and pyrogen free



### 6 Micro pestles, PTFE, with stainless steel shaft

PTFE. With stainless steel shaft. For 1.5ml microcentrifuge tubes. Overall length 143mm.

Type	PK	Cat. No.
Flat	1	9.315 000
Round	1	9.315 001



# 5. Sample preparation

## Mixing, Homogenisation/Homogenisers



### 1 Micro pestles, CTFE/stainless steel

Reusable, for 500µl and 1.5ml microcentrifuge tubes. Autoclavable CTFE/stainless steel. Suitable for battery-operated drive motor (9.314 496).

Capacity ml	Length*	PK	Cat. No.
0.5	6	1	9.314 494
1.5	14	1	9.314 495

\* Pestle length (cm)



### 2 Micro pestles, accessory drive motor

Type	PK	Cat. No.
Complete with two batteries	1	9.314 496
Spare pestle adapter	1	9.314 497



### 3 BAGMIXER® Starter Pack **NEW!**

The starter pack has everything to start a microbiological analysis. *interscience*

Supplied with: 1 BagMixer® 400 VW, 500 BagFilter®, 1000 BagLight®, 50 BagClip®, 1 BagOpen® and 1 BagRack®.

Type	PK	Cat. No.
BAGMIXER® Starter Pack	1	9.570 015

### Laboratory paddle blender BagMixer® 100 MiniMix® **NEW!**

MiniMix® 100 paddle blenders, from the BagMixer® range, guarantees a quick and accurate blending of small samples. Thanks to the adjustable paddle system, blending is at its best. MiniMix® 100 is ideal for medical, veterinary and microbiological analysis. *interscience*

Type	Capacity ml	PK	Cat. No.
MiniMix® 100 P CC®	80-100	1	6.240 509 <span style="float: right;"><b>4</b></span>
MiniMix® 100 W CC®	80-100	1	6.241 090 <span style="float: right;"><b>5</b></span>



6.240 509



6.241 090

### 1 Laboratory mixer, BagMixer®

For sample preparation with easily adjustable paddle system. The BagMixer® is available in 3 sizes and blends all sample types prior to their microbial analysis. Thanks to their unique adjustable paddle system the blending chamber can be adjusted to the sample volume. Combined with the variable speed, a higher bacterial recovery rate is achieved. All BagMixer® units are fitted with a timer. Constructed in stainless steel. The fully opening door enables easy cleaning.

*interscience*

Click & clean® System (only BagMixer® 400 CC): removable and autoclavable paddles.

All units have a 3-year warranty and life guarantee for shock absorbers and window door.



Type	Capacity ml	Length mm	Width mm	Height mm	PK	Cat. No.
BagMixer® 400 VW	50 to 400	390	270	260	1	9.570 073
BagMixer® 400 CC	50 to 300	400	220	240	1	9.570 098
JumboMix® 3500 VW	400 to 3500	420	540	500	1	9.570 074

Scan 500 colony counter available on request!

### 2 3 Blender bags, BagSystem®

These highly resistant bags provide increased safety. The filter bags automatically filter the sample during the blending process, withholding particles behind the filter.

*interscience*

The BagPage® has a full-width membrane filter.

The BagFilter® P is a non-woven lateral filter and it is sterile.

Type	Description	Width mm	Height mm	PK	Cat. No.
BagLight® 100	plain bag, sleeve 25	110	185	500	9.570 075
BagLight® 400	plain bag, sleeve 25	175	300	1000	9.570 097
BagLight® 3500	plain bag, sleeve 25	380	510	500	9.570 077
BagFilter® 400 P	side filter bag, sleeve 25	190	300	500	9.570 078
BagFilter® 3500 P	side filter bag, sleeve 10	380	510	100	9.570 079
BagPage® 100	full-size filter bag, sleeve 25	180	95	500	9.570 080
BagPage® Plus 400	full-size filter bag, sleeve 25	190	300	500	9.570 081
BagPage® 3500	full-size filter bag, sleeve 10	380	510	100	9.570 082





### 1 Accessories for blender BagSystem®

*interscience*

Type	Description	PK	Cat. No.
BagOpen® 80/100	bag opener	1	9.570 083
BagOpen® 400	bag opener	1	9.570 084
BagOpen® 3500	bag opener	1	9.570 085
BagRack® 80/100	bag storage for 11 bags	1	9.570 086
BagRack® 400	bag storage for 10 bags	1	9.570 087
BagClip® 80/100	bag closure clip	50	9.570 088
BagClip® 400	bag closure clip	50	9.570 089
BagClip® 3500	bag closure clip	50	9.570 090
BagPipet®	pipette with 3 fixed graduations: 0.1, 0.9, 1.0ml	1	9.570 091
BagTips® Regular	straws for BagPipet®, 19cm, sterile	1000	9.570 092
BagTips® Jumbo	straws for BagPipet®, 24cm, sterile	1000	9.570 093

### ➔ Adhesive Labels - please see page 139



### 2 Sample bags, RollBag®

Sterile bags with seal reinforced with metal wire for BagMixer® lab blender and for collecting samples in the food, dairy, water, sewage, medical, veterinary, environmental, soil and industrial fields. By whirling, the RollBag® becomes a leakproof bag. RollBag® is also thick and robust in order to resist bursting when handling a variety of samples.

*interscience*

#### Specifications

Capacity:	450ml
Blended volume:	5 to 50ml
Capacity:	1300ml
Blended volume:	50 to 300ml

Capacity ml	Dimensions (D x W) mm	PK	Cat. No.
450	110 x 230	1000	9.570 099
1300	175 x 290	500	9.570 096



### 3 Gravimetric solvent diluter Gravimat®

The Gravimat® automatically dilutes a solid sample with the appropriate mass of solvent. Stainless steel. Complete traceability, LIMS connection.

*interscience*

#### Comprises:

- Unit with 2 autoclavable dispenser tubes
- 5L autoclavable bottle
- BagOpen® sample bag holder

Accessories: Barcode reader, printer, booster kit (adds a double pump assembly and tubing to the unit, allowing liquid to be dispensed at a higher flow rate).

#### Specifications

Balance:	0.05 to 2500g
Accuracy:	>99%
Dimensions (W x L x H):	250 x 420 x 300mm
Languages:	F, UK, D, E, IT, JAP, CHIN

Type	PK	Cat. No.
Gravimat®, single pump	1	9.570 094
Gravimat®, double pump	1	9.570 095

### Gravimetric solvent diluter, BabyGravimat®, 1 or 2 pumps

All the Gravimat® technology in an all inox smaller unit: only 25cm wide. Ideal for sample dilution in a laminar-flow cabinet.

*interscience*

- Available with single or dual pump.
- Fast and accurate
  - Compact and extra user-friendly
  - RS232 output for LIMS or printer

Supplied with:  
 an inox dispensing arm, 1 or 2 pumps, BagOpen® 400, 2 dispensing assemblies per pump, one pack of each BagFilter®P 400, BagPage® Plus filter bags.

#### Specifications

Range: from 0.1 g to 1000g  
 Dilution Precision: >99%  
 Dimensions (W x L x H): 250 x 350 x 160mm  
 Weight: 8kg

Type	PK	Cat. No.
BabyGravimat® single pump	1	9.570 000 <b>1</b>
BabyGravimat® double pump	1	9.570 001 <b>2</b>

**1**

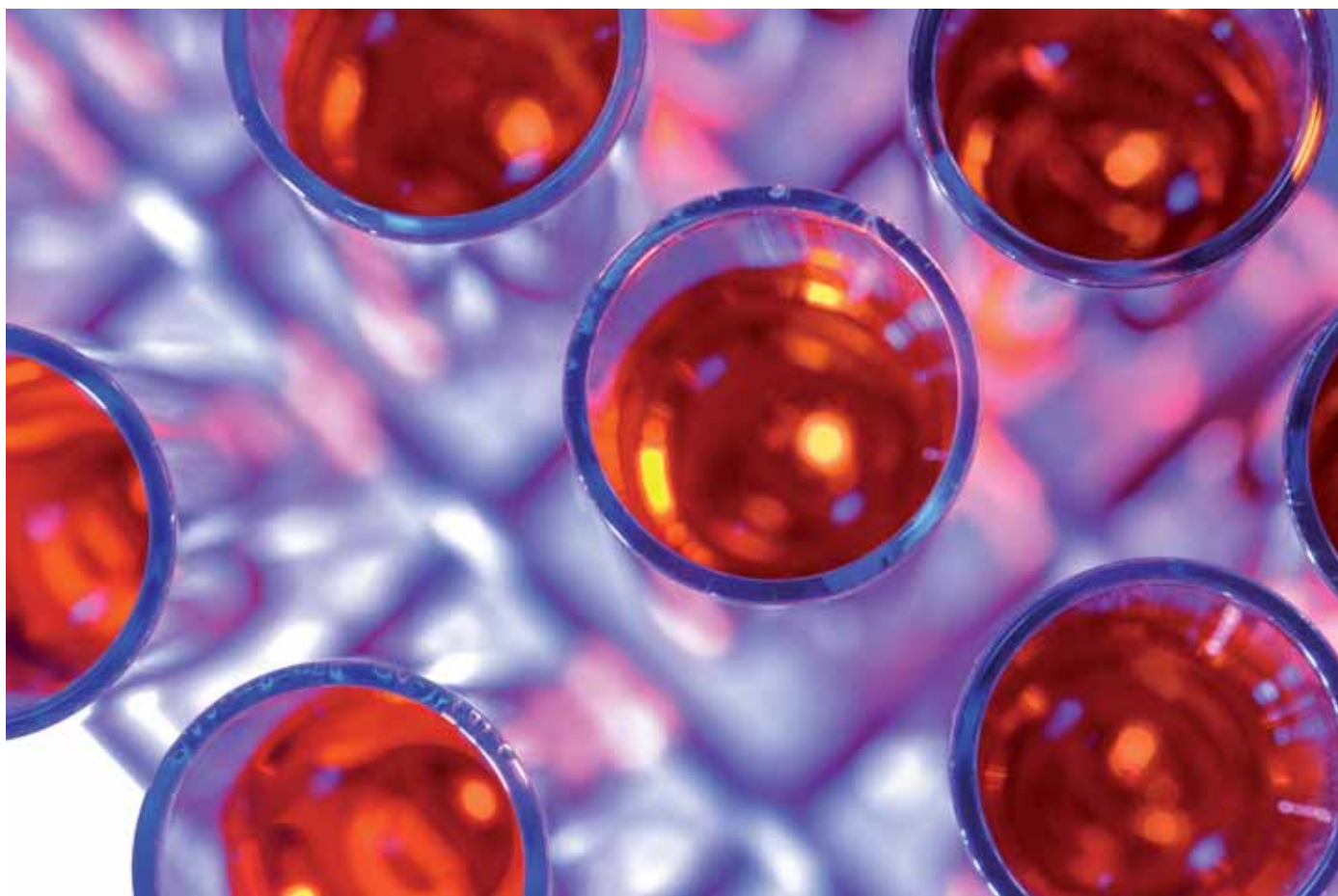


9.570 000

**2**



9.570 001





# ITT



## WTW – The Worldwide No. 1 for Electrochemistry Meters

Founded in 1945, WTW has provided outstanding leadership in the design and production of superior quality water testing instrumentation world-wide for 60 years.

Today WTW is offering the world's most complete line of pH/ORP, D.O./BOD/Respirometry and Conductivity Instruments, Turbidity Meters, Photometers with reagents.



*The new MultiLine® portable instruments with intelligent digital IDS sensors are state of the art in electrochemical measurement technology "made in Germany".*



**WTW Wissenschaftlich-Technische Werkstätten GmbH**

Dr.-Karl-Slevogt-Strasse 1 · D-82362 Weilheim, Germany · Tel.: +49 881 183-0 · Fax: +49 881 183-420 · info@WTW.com · www.WTW.com

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