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Cell disruption/homogenisation devices

Ultrasonic disintegrator UP series

Hielscher.

- Small, compact ultrasonic processors
- Applications: Disintegration or homogenisation of liquids, dispersion, cell disintegration
- With pulse mode for temperature-sensitive samples
- For use as hand-held or stand unit (please order stand separately)

Technical specifications:

Art. No.	Y509.1	Y510.1
Type	UP50H	UP100H
For max. volume	200 ml	500 ml
Performance	50 W	100 W
Working frequency	30 kHz	
Power output control	Amplitude 20 to 100 %, continuously adjustable	
Pulse range	10–100 %/s	
Length	50 mm	
Width	130 mm	
Height	180 mm	
IP rating	40	
Weight	0.8 kg	
Mains connection	230 V, 50/60 Hz	

Delivery incl. basic unit with travelling case and stand holder for stands rod Ø 16 mm, without sonotrode (please order separately).

Not a medical device / Not an IVD product

Type	Art. No.	Pack Qty.	
UP50H	**Y509.1**	1 unit(s)	
UP100H	**Y510.1**	1 unit(s)	

Sonotrode for ultrasonic disintegrators UP50H and UP100H

Hielscher.

Made of titanium. Length 80 mm.

Technical specifications:

Art. No.	Y512.1	Y513.1	Y514.1	Y515.1
Type	MS1	MS2	MS3	MS7
Sample quantity	0,1–5 ml	2–50 ml	5–200 ml	20–500 ml
Length	80 mm			
Outer tip Ø	1 mm	2 mm	3 mm	7 mm
Immersion depth	5 mm	30 mm		

Not a medical device / Not an IVD product

Type	Art. No.	Pack Qty.	
MS1	**Y512.1**	1 unit(s)	
MS2	**Y513.1**	1 unit(s)	
MS3	**Y514.1**	1 unit(s)	
MS7	**Y515.1**	1 unit(s)	

Ultrasonic disintegrator UP200Ht digital

Hielscher.

Applications: sample preparation, homogenisation, dispersion, disagglomeration (e.g. nanoparticles), emulsification, analysis and cell disruption, extraction, degassing and sonochemistry.

- Use as hand-held device or mounted on a stand
- Colour touch display and digital setting and monitoring functions
- Amplitude or power output control
- Countdown function: 0.1 s to 99 d
- Automatic data storage on integrated SD card reader in 100 ms cycles; records amplitude, power output, time and temperature
- Temperature range monitoring: acoustic irradiation is interrupted if the medium temperature is above or below the setpoint
- Temperature display (with connected probe): -50 to +200 °C
- Operation and monitoring via LAN cable, i.e. a browser can be used for display and remote control (no need to install software on PC)
- With LED sample illuminator
- Protection against dry running

Technical specifications:

Art. No.	YH05.1
Type	Ultrasonic disintegrator UP200Ht
Performance	200 W
Working frequency	26 kHz
Power output control	Amplitude 20 to 100 %, continuously adjustable
Pulse range	10,0–100,0 %/s
Length	190 mm
Width	90 mm
Height	300 mm
Weight	1.4 kg
Mains connection	100–240 V, 50/60 Hz

Delivery incl. carry case, boom arm (L 200 x Ø 12 mm), cross clamp, 3 m network cable, 1 GB SD/USB combo card and temperature sensor Pt 100. Please order sonotrodes and stand separately.

Not a medical device / Not an IVD product

Type	Art. No.	Pack Qty.	
Ultrasonic disintegrator UP200Ht	**YH05.1**	1 unit(s)	

Cell disruption/homogenisation devices

Sonotrode for Ultrasonic disintegrator UP200Ht digital

Hielscher.

Sonotrodes
Made of titanium.

Technical specifications:

Art. No.	YH06.1	YH07.1	YH08.1
Type	S26d2	S26d7	S26d14
Sample quantity	2–50 ml	20–500 ml	50–1000 ml
Length	120 mm	95 mm	80 mm
Outer tip Ø	2 mm	7 mm	14 mm

Not a medical device / Not an IVD product

Type	Art. No.	Pack Qty.	
S26d2	**YH06.1**	1 unit(s)	
S26d7	**YH07.1**	1 unit(s)	
S26d14	**YH08.1**	1 unit(s)	

Accessories stand for ultrasonic disintegrators UP50H, UP100H and 200Ht digital

Hielscher.

Stand
Made of stainless steel. Footplate L 300 x B 150 mm. Stand rod height 600 mm. Rod-Ø 16 mm.

Designation	Art. No.	Pack Qty.	
Stand for UP50H, UP100H and UP200Ht	**Y525.1**	1 unit(s)	

Ultrasonic disintegrator SONOPULS series

Bandelin.

Applications: Cell disruption, homogenisation, emulsifying, suspension, process acceleration and, sonochemistry and de-gasing.

- LED display for pulsation, time as well as actual value display of the amplitude
- Ultrasonic operation modes:
  Continuous or pulsating (for temperature-sensitive
- samples); pulse range 10 to 100 %, can be saved
- Continuous operation or timer operation (adjustable 1 s bis 99 min; can be saved)

Technical specifications:

Art. No.	HC85.1	HC86.1
Type	HD 2070 set	HD 2200 set
For max. volume	50 ml	900 ml
Performance	70 W	200 W
Working frequency	20 kHz	
Power output control	Amplitude 10 to 100 %	
Pulse range	10–100 %	
Mains connection	230 V, 50/60 Hz	

In vitro diagnostic medical device according to IVDD

Complete sets Model HD 2070

Delivery incl. generator, ultrasonic transformer, graduated horn SH 70 G and micro tip MS 73, Ø 3 mm. Please order support frame separately.

Type	Art. No.	Pack Qty.	
HD 2070 set	**HC85.1**	1 unit(s)	

Complete set Model HD 2200

Delivery incl. generator, ultrasonic transformer, booster horn SH 213 G and titanium plate TT 13, Ø 13 mm. Please order support frame separately.

Type	Art. No.	Pack Qty.	
HD 2200 set	**HC86.1**	1 unit(s)	

Cell disruption/homogenisation devices

Sonotrode for ultrasonic disintegrators HD 2070 and HD 2200

Bandelin.

Technical specifications:

Art. No.	HC87.1	HC88.1	HC89.1	HC90.1
Type	Microtip MS 72	Microtip MS 73	Cone tip KE 76	Titanium plate TT 13
Sample quantity	HD 2070: 1 - 25 m HD 2200: 2 - 30 ml	HD 2070: 2 - 50 ml HD 2200: 50 - 90 ml	HD 2070: 8 - 100 ml HD 2200: 10 - 350 ml	HD 2070: 10 - 200 ml HD 2200: 20 - 900 ml
Length	191 mm	175 mm	135 mm	5 mm
Outer tip Ø	2 mm	3 mm	6 mm	13 mm

In vitro diagnostic medical device according to IVDD

Type	Art. No.	Pack Qty.	
Microtip MS 72	**HC87.1**	1 unit(s)	
Microtip MS 73	**HC88.1**	1 unit(s)	
Cone tip KE 76	**HC89.1**	1 unit(s)	
Titanium plate TT 13	**HC90.1**	1 unit(s)	

Accessories support frame set HG 40 for ultrasonic disintegrators SONOPULS HD 2070 and HD 2200

Bandelin.

Made of stainless steel. For fastening the ultrasonic transformer. With clamp.

Designation	Art. No.	Pack Qty.	
Support frame set HG 40	**HC93.1**	1 unit(s)	

Cell disruptors Genie® Disruptor

Scientific Industries.

Suitable for a variety of homogenizations of yeast cells, bacteria, tissue and cell resuspensions using glass beads (please order separately).

Technical specifications:

Art. No.	AH30.1	PA66.1
Type	Disruptor Genie® Analog	Disruptor Genie® Digital
Speed	2850 rpm	1000–2850 rpm
Speed display		Digital
Time setting from	0 min	
Time setting up to	15 min	99 min
Timer display	Scale	
Length	165 mm	
Width	122 mm	
Height	190 mm	
Weight	4.5 kg	
Mains connection	230 V, 50/60 Hz	

Delivery incl. TurboMix® attachment and holder for 12 reaction vials 1.5/2.0 ml. Beads please order separately.

Model analogue

- With fixed set speed
- Timer: 0 to 15 minutes or continuous operation

Type	Art. No.	Pack Qty.	
Disruptor Genie® Analog	**AH30.1**	1 unit(s)	

Model Digital

- With variable speed control
- Timer: 0 to 99 min or continuous operation
- After 10 min, the mixer switches to “Sleep” mode

Type	Art. No.	Pack Qty.	
Disruptor Genie® Digital	**PA66.1**	1 unit(s)	

Cell disruption/homogenisation devices

Disruptor Bead Beater

For rapid, efficient and safe cell disintegration.
Method of operationA fast running impeller wheel accelerates the movement of small beads in a specially formed vessel to a very high speed. The system is completely hermetically sealed and allows no air to enter into the sample, preventing harmful aerosols from forming. The unit is easy-to-use and maintenance
free. The beads precipitate within a few seconds and can be reused.

- Up to a max. sample volume of 100 g (moist weight) in 200 ml medium
- Ideal for sensitive proteins and enzymes

Delivery incl. 350 ml PC vessel.
Glass beads please order separately.

Designation	Art. No.	Pack Qty.	
BeadBeater®	**N025.1**	1 unit(s)	

Accessories vessels for Bead Beater®

Replacement vessels

Designation	Art. No.	Pack Qty.	
PC replacement vessel 350 ml	**N026.1**	1 unit(s)	
Stainless steel vessel 350 ml	**N027.1**	1 unit(s)	

Additional vessels

Pic.	Designation	Art. No.	Pack Qty.	
(1)	PC vessel with stainless steel guide bushing 15 ml	**EN04.1**	1 unit(s)	
(2)	PC vessel with stainless steel guide bushing 50 ml	**EN05.1**	1 unit(s)	

Accessories Beads for BeadBeater®

Glass beads
2.5 g/cm³.

Ø Ball (mm)	Art. No.	Pack Qty.	
0,1	**N029.1**	450 g	
0,5	**N030.1**	450 g	
1,0	**N031.1**	450 g	
2,7	**N032.1**	450 g	

Zirconia/glass beads
3.7 g/cm³.

Ø Ball (mm)	Art. No.	Pack Qty.	
0,1	**N033.1**	450 g	
0,5	**N034.1**	450 g	
1,0	**N035.1**	450 g	
2,3	**N036.1**	450 g	

Zirconia beads
5.5 g/cm³.

Ø Ball (mm)	Art. No.	Pack Qty.	
0,7	**N037.1**	450 g	
1,0	**N038.1**	450 g	
2,0	**N039.1**	450 g	

Stainless steel beads
7.9 g/cm³.

Ø Ball (mm)	Art. No.	Pack Qty.	
1,5	**P329.1**	45 g	

Lab blenders Bag Mixer® 400 series

Interscience.

The BagMixer® ensures safe and easy separation of bacteria from solid samples. A sterile plastic bag is added together with the closed sample and a diluent into the BagMixer®. For most samples 30 to 60 seconds mixing is sufficient. The filtrate can then be removed with a pipette and analysed immediately without any danger of changing or contamination.. Housing and mixing chamber are made of rustproof stainless steel.

Technical specifications:

Art. No.	KL16.1	T211.1	KL17.1
Type	Bag Mixer® 400 P	Bag Mixer® 400 W	Bag Mixer® 400 CC
Sample quantity	50-400 ml		
Length	420 mm		
Width	260 mm		
Height	265 mm		
Weight	16.5 kg		
Mains connection	110/240 V, 50/60 Hz		

Model 400 P

- With stainless steel cap
- Fixed speed (8 beats/s)
- Adjustable mixing time: 30 to 210 minutes or continuous operation

Pic.	Type	Art. No.	Pack Qty.	
(1)	Bag Mixer® 400 P	**KL16.1**	1 unit(s)	

Model 400 W

- With window flap made of armour plate glass
- Fixed speed (8 beats/s)
- Adjustable mixing time: 30 to 210 minutes or continuous operation
- **Delivery incl.** drip pan

Pic.	Type	Art. No.	Pack Qty.	
(2)	Bag Mixer® 400 W	**T211.1**	1 unit(s)	

Model 400 CC

- Window flap made of armour plate glass
- LCD display indicates mixing time and speed
- Variable speed setting: 4, 6, 8 or 10 strokes/s
- Adjustable mixing time: 1 sec to 1 h with count-down display
- or continuous operation
- With additional indicator display for mixing blade intensity
- Distance between mixing blades and door can be adjusted
- **Delivery incl.** drip pan

Pic.	Type	Art. No.	Pack Qty.	
(3)	Bag Mixer® 400 CC	**KL17.1**	1 unit(s)	

Cell disruption/homogenisation devices

Accessories rack made of stainless steel for homogeniser Bag Mixer®

Interscience.

The stainless rack can only be used with the sealing clips (please order separately).

Designation	Art. No.	Pack Qty.	
(4) Rack made of stainless steel for 10 bags	**T213.1**	1 unit(s)	

Lab blenders Bag Mixer®

Interscience.

Effective mixing of solid or liquid samples in laboratory blender bag.
Optimal micro-organism extraction.
Sample material is quickly prepared for analysis without complex cleaning.

General information for all models:

- **For reaction vials from 50 to 400 ml**
- Digital display of speed and time
- Adjustable mixing intensity
- Removable pedals
- 4 adjustable speeds: 4, 6, 8, 10 impacts/s
- Adjustable mixing time: 1 to 59 minutes or continuous operation
- LightCode System: colour LED light under the door indicates the mixing status (green: mixing operation finished; orange: active mixing operation)
- LED interior light
- Integrated drip pan
- Low noise (approx. 48 dB)

Technical specifications:

Art. No.	CEC0.1	CEC1.1
Type	Bag Mixer® 400 S	Bag Mixer® 400 SW
Sample quantity	50–400 ml	
Length	370 mm	
Width	290 mm	
Weight	26 kg	
Mains connection	110–240 V, 50/60 Hz	

Model S
Standard version.

Pic.	Type	Art. No.	Pack Qty.	
(1)	Bag Mixer® 400 S	**CEC0.1**	1 unit(s)	

Model SW

- Window flap with double glazing
- LiquidSensor: mixing stops immediately and automatically if a leak is detected by the sensor

Pic.	Type	Art. No.	Pack Qty.	
(2)	Bag Mixer® 400 SW	**CEC1.1**	1 unit(s)	

Accessories BagOpen® homogenizing bag stand

Interscience.

For opening and holding bags.
For individual 400 ml bags. Self-adhesive pads adhere to the outer walls of the bag and to the side walls of the stand and hold the bag open. Reduces the risk of sample contamination.

Delivery incl. 2 adhesive pads.

Width (mm)	Length (mm)	Height (mm)	Art. No.	Pack Qty.	
80	150	250	**XX17.1**	1 unit(s)	

Cell disruption/homogenisation devices

Lab blenders Stomacher® 400 circulator

Seward.

Ideal for extracting, mixing or dispersing.
Capacity 80 to 400 ml. The Stomacher® 400 circulator is indispensable in the laboratory when preparing and blending food samples and other substances for analysis.
The sample and diluent are placed into the unit in a sealed plastic bag. The bag is held securely in the unit during treatment. There is practically no risk of contact between the sample and unit. This eliminates any danger of contamination.
With regard to hygiene, security and general efficiency the Stomacher® 400 circulator brings enormous benefits compared to other units, which must be cleaned or even sterilized after use. Processing takes only 30 seconds for most substances.

Operating principle
Two reciprocating paddles beat against the bag repeatedly and press its contents against the door. This quiet and yet powerful movement distributes the sample quickly so that the extraction of soluble substances and the detection of even deep-seated micro-organisms is easier than when using standard blending processes.
The sample can be removed from the bag with a pipette after blending. The Stomacher® 400 circulator is ready for use again immediately.

Special characteristics:

- Control panel with keyboard and LCD display
- Count-down display indicates the processing time
- User-defined speed and time setting
  - 3 programs can be stored for easier operation
  - Setting options:
  1.) Paddle speed rpm 200/low, 230/normal, 260/high)
  2.) Time (from 1 s to 99 min and 59 s)
- Durable and robust aluminium casing

Technical specifications:

Art. No.	**H453.1**
Type	Stomacher® 400 circulator
Sample quantity	80–400 ml
Length	335 mm
Width	350 mm
Height	280 mm
Weight	23 kg
Mains connection	220 V, 50 Hz

Delivery incl. 1000 standard homogenizing bags (W 177 x H 305 mm).

Type	Art. No.	Pack Qty.	
Stomacher® 400 circulator	**H453.1**	1 unit(s)	

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