Homogenizer

Handheld Homogenizer

D-130

When speed & high quality meet
creating power to disperse

Features

- Use for mixing, emulsification, shredding, or chopping.
- Practical answer for small samples.
- Easy to hold and light weight for one hand operation.
- Autoclavable stainless steel shafts. Inert to aggressive solutions.
- All shafts are interchangable shafts and are easily removed for cleanup.
- High speed motor. Speed control from 8,000 to 30,000 rpm.

Application

- General homogenization applications (dispersion and emulsification)
- Homogenising of tumour tissue sample, for research of diverse tissue diseases
- Fast dissolving of pills, sugar-coated tablets for quality control purposes
- Sample preparation for subsequent extraction of pharmaceutical agents (API)
- Cell disruption, RNA / DNA isolation from tissue
- Dispersion of small quantities from plants, animals or human tissue
- Solving of solid materials

Stand
Order No.: 1710130-01

Recommend purchasing the set. The standard set includes: homogenizer, dispersing shaft, stand.

Specifications

Model	D-130
Order No.	1710130
Speed range with zero-load [rpm]	8000~30000
Sample volume H_2O [mL]	0.1~50 / 1~250
Power [W]	130
Dispersing shaft	DS-130/5, DS-130/7, DS-130/10, DS-130/14
The wet part for dispersing shaft	316L stainless steel and PTFE
Dimensions without dispersing shaft (W x H x D) [mm]	60×70×240
Weight [kg]	1
Power supply	110V/60Hz or 230V/50~60Hz

Shaft for D-130

Model	DS-130/5	DS-130/7	DS-130/10	DS-130/14
Length (mm)	90	160	150	170
Rotor diameter (mm)	5	7	10	14
Volume Range (mL)	0.1-50	0.3-50	1-250	2-250

High Speed Homogenizer

D-500 / D-500 Pro

Used for homogenizing, emulsifying or suspending. There is a broad spectrum of dispersing tools to choose from.

Features

> Continuosly adjustable speeds for better results
> Light-weighted and small-dimensioned for better handling
> Triple safety of the drive (overload protection. Smooth start – against jerky work, safety switch)
> High quality dispersing tools as standard for better resistance to corrosion (SS 316 L steel)
> Quick-change system of the dispersing tools for a short changing time between preparations
> Viscosities up to 10,000 cps
> One shaft size
> High quality lab dispersing unit, at a competitive price!
> D-500pro can maintain constant motor speed by feedback control even under changing loads

Specifications

Model	D-500	D-500 Pro NEW!
Speed setting	Knob	Knob
Speed display	Scale	LED
Process Range H_2O(mL)	10~40,000mL	10~40,000mL
Speed with Zero-Load (rpm)	10,000~30,000 rpm	500~30,000 rpm
Applicable aggregates	Ø4~Ø23 mm	Ø4~Ø23 mm
Noise Level (dB)	72 dB (30,000 rpm)	66 dB (2500 rpm); 72 dB (30,000 rpm)
Motor	AC	AC
Input / Output Power (W)	500 W	500 W
Supply voltage (V)	220V/50~60Hz	220V/50Hz
Relative humidity (max.)	80% RH	80% RH
Operating temperature	0~40℃	0~40℃
IP Code	IP20	IP20
Dimensions (W x L x H in mm)	Drive:70×70×255 mm	Drive:157×76×236 mm
Weight (kg)	Drive:1.3 kg	Drive:1.8 kg

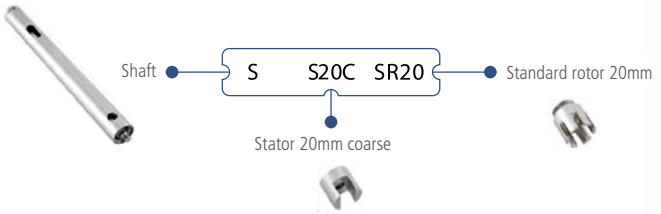
Recommend purchasing the set. The standard set includes: homogenizer, dispersing shaft, stand.

D-500

D-500 Pro

Buy one set of D-500 Pro (includes homogenizer, shaft and stands), get one dispersion cup free

Shaft Selection Guide for High Speed Homogenizer



Shaft 5
Includes: Shaft, PTFE bearing, 5 mm stator, 4 mm rotor

SS20CSR20
Includes: Shaft, PTFE bearing, 20 mm stator, standard rotor SR20

SS20FER20
Includes: Shaft, PTFE bearing, 20 mm stator, emulsification rotor ER20

SS30CSR30
Includes: Shaft, PTFE bearing, 30 mm stator, standard rotor SR30

SS30FER30
Includes: Shaft, PTFE bearing, 30 mm stator, emulsification rotor ER30

SS40CMR30
Includes: Shaft, PTFE bearing, 40 mm stator, mixing rotor MR30

Composition Diagram

Shaft / Order Table

Rotor Name	Function Description	Process Volume	Linear Velocity	Rotor Diameter	Stator Diameter	Min. / Max.	Ultimate Fineness (in microns)		Disinfection Method	Application*
Order No.		mL	m/s	mm	mm	Immersion Depth	suspension	emulsion		
SS20CSR20	Solid-Liquid Mixing Material	10-5000	23.5	15	20	40/170	10-50	1-10		P,CI,PC,SD
SS20CCR20	Fiber Material	10-5000	23.5	15	20	40/170	10-50	1-10		SP,M,F,PT,TI
SS20CMR20	Solid-Liquid Mixing Material	10-5000	23.5	15	20	40/170	10-50	1-10		CI,PI
SS20FER20	Latices	10-5000	23.5	15	20	40/170	10-50	1-10		SP,PI,PT,P
SS20FCR20	Fiber Material	10-5000	23.5	15	20	40/170	10-50	1-10		SP,BT,M,F,PT,TI
SS20FMR20	Solid-Liquid Mixing Material	10-5000	23.5	15	20	40/170	10-50	1-10		CI,C,PI,F,PT,PC
SS30CMR20	Stirring Paddle Function	250-20000	36.1	15	30	40/170	High-speed mixer			CI,F,SP
SS30CSR30	Solid-Liquid Mixing Material	100-8000	36.1	23	30	40/170	5-25	1-5		SP,M,F,PT,P
SS30CCR30	Fiber Material	100-8000	36.1	23	30	40/170	5-25	1-5	all methods	SP,M,F,PT,P
SS30CMR30	Solid-Liquid Mixing	100-8000	36.1	23	30	40/170	5-25	1-5		CI,PI
SS30FSR30	Solid-Liquid Mixing Material	100-8000	36.1	23	30	40/170	5-25	1-5		SP,PI,PT,P
SS30FER30	Latices	100-8000	36.1	23	30	40/170	5-25	1-5		SP,PI,PT,P
SS30FMR30	Solid-Liquid Mixing Material	100-8000	36.1	23	30	40/170	5-25	1-5		CI,C,P,F,DT,TI
SS40CMR30	Stirring Paddle	1000-40000	36.1	23	40	40/170	High-speed mixer			CI,F,SP
Shaft 5	Solid-Liquid Mixing Material	0.2-50	6.3	4	5	40/60	10~50	1~10		BT,M
Shaft 10	Solid-Liquid Mixing Material	1-250	6.3	9	10	10/60	10-50	1-10		BT,M
Shaft 14	Solid-Liquid Mixing Material	100-1000mL	6.3	13	14	10/60	10-50	1-10		BT,M

Note: BT = Biology; F = Food Industry; P = Pharmaceutical Industry; C = Cosmetic Industry; M = Medical Analysis; PC = Petrochemical Industry;
PT = Paper Production Industry; SP = Wastewater Analysis; CI = Ceramic Industry; CH = Chemical Industry; PI = Paint Industry; TI = Tabacco Industry

Dispersing Vessel

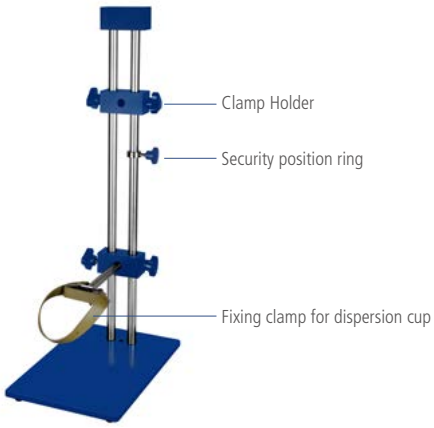
> Deep baffles improve aeration and mixing, which is crucial for good homogenization. The Wiggens dispersing vessels help to get better experiment result.
> The flasks or beakers in traditional homogenization or mixing experiment without baffles can easily create a vortex. Since the process will increase the surface between the liquid and air so that there is extra air introducing to the sample. The efficiency of the mixing or homogenization decreases to some extent. Prolonging dispersing time and changing dispersing shaft have to be considered to get optimal result.
> WIGGENS vessels designed with deep baffles make the mixing procedure easier. The baffles decrease the vortex when the high dispersing speed happens. At higher dispersing speeds, the baffles interrupt the flow in the radial direction and increases counteracting forces. The turbulent liquid flow will get high performance.

Model	Dim. (mm) Ø / H	Working Vol.	Shape	Material	Features	Order No.
DV500	80 / 200	500 ml	Cloverleaf shaped	Borosilicate glass	Top open without cover	W3050100

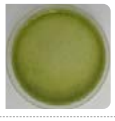
Stand

> Strong base for optimal weight distribution
> Base made of cast iron and shafts made of stainless steel
> Different heights available
> Designed for D-500 and D-500Pro homogenizers
> High quality clamp and fixing set included in the package of stand.

Order No.	Description	Suitable for
WF11-D	Extendable flat bracket (double rod design)	D-500, D-500Pro
11045011	Vessel holder with boss head clamp for WF11-D	WF11-D, WH11-D
11045030	Safety ring for stand WF	WF11-D, WH11-D



Dispersing tests D-130

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Shaft	Test okay? Yes/no	Sample before Dispersing	Sample after Dispersing
1	Rose flower	0.2g	no	5ml water	10ml Conical Tube	level 4	4 min	homogeneous suspension	DS-130/7	yes		
2	Rose flower	0.2g	no	5ml water	10ml Conical Tube	level 6	3 min	homogeneous suspension	DS-130/7	yes		
3	Rose flower	0.1g	no	5ml water	10ml Conical Tube	level 4	1 min	homogeneous suspension	DS-130/10	yes		
4	Rose flower	0.1g	no	5ml water	10ml Conical Tube	level 4	1 min	homogeneous suspension	DS-130/10	yes		
5	Rose stamens	0.05g	no	1.5ml water	2ml Conical Tube	level 4	1 min	homogeneous suspension	DS-130/5	yes		
6	Rose stamens	0.1g	no	2ml water	10ml Conical Tube	level 4	2 min	homogeneous suspension	DS-130/10	yes		

Dispersing tests D-130

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Remarks	Recommended or not	Sample before Dispersing	Sample after Dispersing
1	Rape oil	20 drops	no	10 mL water	test tube 16 mm	max.	1 min	stable emulsion		yes		
2	Chicken liver	1 g	5 mm pieces	10 mL water	test tube 16 mm	max.	30 s	homogeneous suspension	sample completely homogenized	yes		
3	Rice	1g	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	only very small pieces of rice left	yes		
4	Basil leaf	1 piece	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	only small pieces of leaves left	yes		
5	Spelt flakes	2 g	no	15 mL water	test tube 16 mm	max.	1 min	homogeneous pulp		yes		
6	Cooked ham	2 g	5 mm pieces	50 ml water	150 mL beaker	max.	30 s	homogeneous suspension	only very small pieces of leaves left	yes		
7	Confetti	about 20 pieces	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous cellulose suspension		yes		
8	Wood	1 toothpick	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	The pick was not grinded	slight abrasion of the wood pieces	no		
9	Tobacco	0,5 cigarettes	no	10 mL water	test tube 16 mm	max.	30 s	homogeneous Pulp	a few fibres stick in the gaps of the stator	yes		
10	Cloves	5 pieces	no	10 mL water	test tube 16 mm	max.	1 min	no grinding effect	no cloves was grinded	no		
11	Mustard seeds	1 g	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	all seeds were grinded	yes		
12	Herbal tea	0,5 g	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	the herbal tea was completely Grinded	yes		
13	Sunflower seeds	2 g	no	15 mL water	test tube 16 mm	max.	1,5 min	homogeneous suspension	all seeds were grinded	yes		
14	Dragee	1 piece	no	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	the dragee was completely grinded	yes		

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Dispersing tests D-130

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Remarks	Recommended or not	Sample before Dispersing	Sample after Dispersing
15	Chicken meat	2 g	5 mm pieces	10 mL water	test tube 16 mm	max.	20 s	homogeneous suspension	part of tendons wrapped around the rotor	yes		
16	Ivy	2 leaves	5 mm pieces	10 mL water	test tube 16 mm	max.	2 min	inhomogeneous suspension	20 % of the leaves were not grinded	no		
17	Rose blossom	2 leaves	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	some fibres stick in the gaps of the stator	yes		
18	Whole grain Bread	2 g	5 mm pieces	15 mL water	test tube 16 mm	max.	30 s	homogeneous suspension		yes		
19	Carrot	2 g	5 mm pieces	10 mL water	test tube 16 mm	max.	2 min	no grinding effect	carrots are too hard	no		
20	Harzer cheese	2 g	5 mm pieces	10 mL water	test tube 16 mm	max.	10 s	homogeneous sample		yes		
21	Rapes with Kernels	5 pieces	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	only very small pieces of rapes left	yes		
22	Coffee beans	1 piece	quartered	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	only very small pieces of coffee left	yes		
23	Soil sample	1 g	no	10 mL water	test tube 16 mm	max.	30 s	homogeneous suspension	only very small pieces of stones left	yes		
24	Pork meat (fat and sinewy)	1 g	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	homogeneous suspension	part of tendons wrapped around the rotor	yes		
25	Pet food	1 g	5 mm pieces	10 mL water	test tube 16 mm	max.	30 s	homogeneous suspension	part of tendons wrapped around the rotor	yes		
26	Styrofoam	0,5 cm³	5 mm pieces	10 mL water	test tube 16 mm	max.	1 min	no grinding effect		no		
27	Berries mix	2 g	no	10 mL water	test tube 16 mm	max.	30 s	homogeneous suspension	all berries are grinded	yes		
28	Tomatoes	15 g	10 mm pieces	without	50 mL beaker	max.	2 min	homogeneous tomato pulp	parts of the bowl are not grinded	yes		

Dispersing tests D-500 / D-500Pro

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Remarks	Recommended or not	Sample before Dispersing	Sample after Dispersing
1	Rape oil	5 mL	no	80 mL water	100mL measuring cylinder	max.	1 min	stable emulsion		yes		
2	Liver	20 g	10 mm pieces	200 mL water	500 mL beaker	max.	30 s	homogeneous suspension	sample completely homogenized	yes		
3	Rice	20 g	no	80 mL water	100mL measuring cylinder	max.	1 min	homogeneous suspension	only small pieces of rice left	yes		
4	Basil leaf	10 pieces	10 mm pieces	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	only small pieces of leaves left	yes		
5	Spelt flakes	25 g	no	80 mL water	100mL measuring cylinder	max.	1 min	homogeneous Pulp		yes		
6	Cooked ham	20 g	1 cm pieces	200 mL water	500 mL beaker	max.	30 s	homogeneous suspension	only very small pieces of fibres left	yes		
7	Confetti	about 200 pieces	no	70 mL water	100mL measuring cylinder	max.	1 min	homogeneous cellulose suspension	a very small part stick between the rotor and the stator	yes		
8	Wood	5 toothpicks	1 cm pieces	200 mL water	500 mL beaker	max.	1 min	about 60 % of the picks were grinded	some psrts of the Picks are not grinded and stick	yes		
9	Tobacco	1 cigarette	no	150 mL water	250 mL beaker	max.	1 min	bad homogenizing Most of the tobacco floats ungrinded on the surface	a few fibres stick in the gaps between the rotor and the stator	no		
10	Cloves	30 pieces	no	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	all cloves were grinded	yes		
11	Mustard seeds	10 g	no	150 mL water	500 mL beaker	max.	1 min	homogeneous suspension	all seeds were grinded	yes		
12	Herbal tea	2 g	no	500 mL water	2 l beaker	max.	1 min	homogeneous suspension	the herbal tea was completely Grinded	yes		
13	Sunflower seeds	20 g	no	150 mL water	500 mL beaker	max.	1 min	homogeneous suspension	all seeds were grinded	yes		
14	Dragees	5 pieces	no	60 mL water	100mL measuring cylinder	max.	1 min	homogeneous suspension	the dragee was completely grinded	yes		

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Dispersing tests D-500 / D-500Pro

No.	Material	Amount	Pregrinded	Liquid	Vessel	Speed	Duration	Result	Remarks	Recommended or not	Sample before Dispersing	Sample after Dispersing
15	Chicken meat	10 g	10 mm pieces	200 mL water	500 mL beaker	max.	20 s	homogeneous suspension	part of tendons wrapped around the rotor	yes		
16	Ivy	10 leaves	10 mm pieces	200 mL water	500 mL beaker	max.	2 min	homogeneous suspension	only very small pieces of leaves left	yes		
17	Rose blossom	10 leaves	10 mm pieces	200 mL water	500 mL beaker	max.	2 min	homogeneous suspension	only very small pieces of leaves left	yes		
18	Whole grain Bread	20 g	10 mm pieces	200 mL water	500 mL beaker	max.	2 min	homogeneous suspension	the vessel must be moved	yes		
19	Carrot	10 g	10 mm pieces	200 mL water	500 mL beaker	max.	2 min	homogeneous suspension	the vessel must be moved	yes		
20	Harzer cheese	20 g	10 mm pieces	200 mL water	500 mL beaker	max.	20 s	homogeneous suspension	the vessel must be moved	yes		
21	Rapes with Kernels	5 pieces	10 mm pieces	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	only very small pieces of rapes left	yes		
22	Coffee beans	10 pieces	no	60 mL water	100mL measuring cylinder	max.	1 min	homogeneous suspension	only very small pieces of coffee left	yes		
23	Soil sample	20 g	no	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	only very small pieces of stones left	yes		
24	Pork meat (fat and sinewy)	10 g	10 mm pieces	200 mL water	500 mL beaker	max.	1 min	homogeneous suspension	part of tendons wrapped around the rotor	yes		
25	Pet food	20 g	10 mm pieces	200 mL water	500 mL beaker	max.	30 s	homogeneous suspension	part of tendons wrapped around the rotor	yes		
26	Styrofoam	2 cm³	10 mm pieces	200 mL water	500 mL beaker	max.	1 min	no grinding effect		no		
27	Berries mix	20 g	no	200 mL water	500 mL beaker	max.	30 s	homogeneous suspension	all berries were grinded	yes		
28	Tomatoes	50 g	10 mm pieces	without	250 mL beaker	max.	2 min	homogeneous tomato pulp	the vessel must be moved	yes		

Flapping Homogenizer

From sample preparation.....to microbiological analysis

WIGGENS provides a complete solution

1 Collecting the sample

Place the sample in sterile filter bag. The bag stands upright.

2 Diluting the sample

Add the right amount of diluent into the sterile bag

3 Homogenizing the sample

The sample is homogenized with the Flapping Homogenizer. There is no contact between the sample and the machine to avoid cross-contamination.

4 Organizing the samples

It is easy to absorb and transfer because the filter bag integrates the filtering effect

5 Pipetting the filtered sample

Preparation of diluted inoculation fluid (gradient) with precision pipetting device from Socorex.

6 Preparing your media

Preparation and subpackage of medium with BioFlo ELITE peristaltic pump

7 Plating

Diluting coating method

Please choose Petri dish automatic turntable from WIGGENS

Flat plate crossed inoculation

Please choose automatic sterilization device from WIGGENS for automatic sterilization of inoculation rings

8 Counting the colonies

It is very fast for counting when using the colony counter

Flapping Homogenizer (Stomacher)

> Flapping Homogenizer is also called Sterile Homogenizer, and can be used to abstract bacteria from solid samples. Put the original samples and the diluents into the sterile bag, then put the bag into the homogenizer. Through the flapping of the paddles, the material in the bag can rapidly reach a homogenized state by the pressure, shaking and vibration.

> To guarantee the uniformity of the effective extraction of the microorganism inside and on the surface of the solid sample, make sure to include all the material in the sterile bag. The homogenized sample then can be used for the following analysis, and the sterile bag avoids the cross contamination.

> Using disposable sterile homogeneous bags to guarantee the sample safety and non-contamination, leakless process omits cleaning of the instrument. The advantage of the flapping homogenization is convenient, quick, mild, accurate and good repeatability. Samples will not be contaminated, damaged, heated, and no sterilization as well as no container is needed, thus no container cleaning process either.

Application:

> Food microbiological analysis

> Homogenization of animal tissues, biological samples, and cosmetics

> Homogenization of meats, fish, vegetables, and fruits

> Medicines, clinics, molecules, detection of toxins and bacteria

Features

> Samples in sterilize bag are homogenized by paddles without the risk of cross-contamination.

> Optimal bacterial extraction without destruction.

> Leading microprocessor technology for flap control

> Adjustable flapping speed

> Working time can be set on continuous or pre-set time

> Maintenance-free brushless DC motor

> Stainless steel housing with plastic coating for HG40VW or full stainless for HG400Pro

> Employ digital setting and display of the working time

> Digital and analog interface for remote control

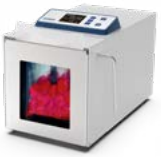
HG400 Pro

> Paralleled paddles stop ease the procession.

> Tight closure secure bag seal.

> Quick paddles remove and installation allow you to clean the chamber

> Illumination unit observation of observing the whole process clearly.



HG400 Pro

> Useful volume :50-400mL

> Variable speed :1-10strokes/s

> Variable blending time : 1s - 59min 59S

> Paralleled paddles stop

> Safety drip tray

> Adjustable blending power

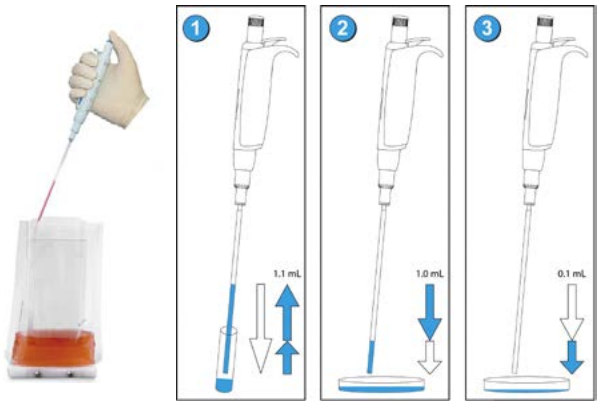
Sterile bag for sampling and samples homogenization.

Easy transportation of the sample

Specifications

Mode	HG400VW	HG400 Pro
Door	SS-Door with Observation Window	SS-Door with Observation Window
Blending volume (mL)	50-400	50-400
Speed (rpm)	10~300	60~360
Variable blending time	1 min to 24h	1 second to 59min 59 s
Exterior dimension (W x D x H, cm)	45 x 21 x 24	45 x 28 x 30
Interior dimension (W x D x H, cm)	10 x 19 x 22	10 x 19 x 22
Power	100-240V /50-60Hz	100-240V /50-60Hz

Accessories for flapping homogenizer



Dilution pipette Acura® manual 810

Air displacement pipette with two pre-calibrated steps allows subsequent pipetting of 1 and 0.1 mL of the same liquid. Metal nozzle fits long straw tips to aspirate from narrow or deep reservoirs (i.e. Stomacher®bags). Ideal alternative to the graduated glass pipettes when performing serial 1:10 dilutions in bacteriology.

Features

- Two pre-calibrated fixed volumes – no setting required
- Smooth activation, excellent ergonomics
- Interchangeable PE nozzle protection filter
- JustipTM system for height adjustment of the tip ejector
- Independent calibration for each volume
- Easy maintenance, cleaning and disinfection
- Fully autoclavable 121°C / 250 °F

Simple operation

1. Depress plunger button in full, then release slowly to aspirate 1.1 mL
2. Depress plunger button to first stop, thus dispensing 1 mL in Petri dish
3. Depress plunger button to second stop, thus dispensing residual 0.1 mL in next Petri dish

Ordering information

Order No.	Packaging	Description
810.1100	1 / pk	1 mL / 0.1 mL ①
313.1119.40	40 x 25 / pk	Straw tips, polypropylene, sterilized (L: 190 mm, Ø:4 mm) ②
322.810	100 / pk	Nozzle protection filter, PE material ③

Order information

Order No.	Name	Capacity	Content
2125C25	Standard bag	400 mL	25 per bag ①
2150C25	Standard bag	400 mL	50 per bag ①
4125C15	Full-page filter bag	400 mL	25 per bag ②
6125C15	Lateral filter bag	400 mL	25 per bag ③
SMCLIP	Clip for sterilization bags		④
9125R15	Rack for sterilization bags		Position: 10 ⑤