

Magnetic stirrer without heating

- Epoxy painted metal structure tested in order to give to the instrument an excellent resistance to attack of chemical and mechanical agents and to corrosion in general (Excepting MTS microstirrer with ABS structure).
- High power driving magnet type PCM (Patented Composed Magnet).
- Protection: IP 41.

MST Magnetic microstirrer

- Electronic speed regulation.

Code	Máx. Speed	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51060	1.100 rpm	5 Litres	150x130x50 mm	6	0,55	

- Voltage: 220-240V/50-60 Hz

Magnetic MICROSTIRRER

- Electronic speed regulation.

Code	Máx. Speed	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51061	1.100 rpm	5 Litres	128x120x48 mm	6	0,40	

- Voltage: 220-240V/50-60 Hz

AGE Magnetic stirrer

- Electronic speed regulation.

Code	Máx. Speed	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51064	1.200 rpm	8 Litres	171x190x75 mm	40	1,80	

- Voltage: 220-240V/50-60 Hz

ATE Magnetic stirrer

- Electronic speed regulation.

Code	Máx. Speed	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51065	1.000 rpm	25 Litres	250x285x120 mm	15	3,70	

- Voltage: 220-240V/50-60 Hz

Magnetic stirrer without motor

- Without moving mechanical components, which does not require maintenance.
- Stirring action obtained by a rotating magnetic field produced by a set of electric coils with varied current.
- Protection: IP 20.
- Structure manufactured from selected materials highly resistant to chemicals aggressions..
- The speed range, microprocessor controlled, is between 50 and 1100 rpm.

Code	Máx. Speed	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51079	1.100 rpm	5 Litres	160x230x33 mm	5	0,87	

- Voltage: 220-240V/50-60 Hz



Multiposition magnetic stirres without heating

- Magnetic stirrer able to stir at sometime 6 or 15 vessels.
- Electronic speed regulation from 50 up to 850 rpm.
- Epoxy painted metal structure tested in order to give to the instrument an excellent resistance to attack of chemical and mechanical agents and to corrosion in general.
- High power driving magnet type PCM (Patented Composed Magnet).
- It is possible to thermostate the samples by a proper water recirculation bath.
- Protection: IP 41.

Multiposition magnetic stirrer 6 positions

Code	Speed r.p.m.	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51077	50-850	6x400 ml or 6x85 mm Ø	240x408x55 mm	8	2,20	

- Voltage: 220-240V/50-60 Hz

Multiposition magnetic stirrer 15 positions

Code	Speed r.p.m.	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51078	50-850	15x250 ml or 15x64 mm Ø	240x408x55 mm	15	2,80	

- Voltage: 220-240V/50-60 Hz

Accessory:

- 51155 Water tank for thermostating samples
Dimensions: 240x408x85 mm.
With holes for water recirculation



Lighted magnetic stirrers

- Epoxy painted metal structure tested in order to give to the instrument an excellent resistance to the attack of chemical and mechanical agents and to corrosion in general.
- High power driving magnet type PCM (Patented Composed Magnet).
- Protection: IP20.

Lighted magnetic stirrer AMI

- Electronic speed regulation.

Code	Speed r.p.m.	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51068	1.100 r.p.m.	5 Litres	150x270x55 mm	20	1,90	

- Voltage: 220-240V/50-60 Hz

Lighted multiposition magnetic stirrer AMI 4

- Separately electronic speed regulation for each stirring position.

Code	Speed r.p.m.	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51069	1.100 r.p.m.	4x5 Litres	600x270x55 mm	50	6,00	

- Voltage: 220-240V/50-60 Hz

Heating magnetic stirrers

Magnetic stirrer with heating plate ARE

- Epoxy painted metal structure tested in order to give to the instrument an excellent resistance to the attack of chemical and mechanical agents and to corrosion in general.
- Electronic speed regulation 1200 rpm with continuous regulation.
- Heating setting by means of a thermoelement from room temperature to 370°C.
- Diameter of heating plate: 155 mm.

Code	Speed r.p.m.	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51062	1.200 rpm	15 Litres	165x280x115 mm	780	2,9	

- Voltage: 220-240V/50 Hz

Magnetic stirrer with heating plate T. ARE

- Aluminium casted structure with an epoxy paint assuring a high resistance to chemicals and mechanical corrosion in general.
- Electronic speed control: up to 1200 rpm with continuous regulation.
- Heating setting by means of a thermoelement from room temperature to 370°C.
- Programmable timer: up to 60 minutes with automatic switch off.
- Heating plate diameter: 180 mm

Code	Speed r.p.m.	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51070	1.200 rpm	25 Litres	190x220x100 mm	1300	3,1	

- Voltage: 220-240V/50 Hz

Magnetic stirrer with heating plate ARED

- Epoxy painted metal extruture tested in order to give to the instrument an excellent resistance to the attack of chemical and mechanical agents and to corrosion in general.
- Electronic speed control up to 1200 rpm by means of continuous regulation.
- Heating setting by means of a thermoelement, from room temperature up to 370°C.
- Heating plate diameter: 180 mm.

Code	Speed r.p.m.	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51072	1.200 rpm	20 Litres	190x220x100 mm	1300	3,1	

- Voltage: 220-240V/50 Hz



Accessories:

- 51154 Support rod
- 51157 Magnetic stir bar 7x30mm
- 51171 Hemispheric bowl for 250 ml flasks
- 51172 Hemispheric bowl for 500 ml flasks
- 51173 Hemispheric bowl for 1000 ml flasks



Heating magnetic stirrers

Multiposition heating magnetic stirrer

- 4 independently controlled stirring positions.
- Heating setting by means of a thermoelement from room temperature up to 370°C.
- Electronic speed control, independent setting of revolutions for each stirring position up to 1200 rpm.
- Heating plate diameter: 150 mm.



Code	Speed r.p.m.	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51066	1.200 rpm	4x10 Litres	220x7150x115 mm	3200	8,3	

- Voltage: 220-240V/50 Hz

Heating plate magnetic stirrer AREX

- The instrument is equipped by a connection for a contact VERTEX thermostat (optional).
- Electronic speed control up to 1.300 rpm.
- Electronic speed control up to 1300 rpm assuring a constant speed also if variations of viscosity of the stirred liquid occur.
- Sample temperature control with $\pm 0,5^{\circ}\text{C}$ precision by the use of a VERTEX thermoregulator.
- Diameter heating plate: 155 mm.
- Voltage: 220-240V/50 Hz

Code	Speed r.p.m.	Stirring capacity	Dimensions W - D - H	Power W	Weight Kg	Price
51063	1.300 rpm	20 Litres	165x7150x115 mm	3200	8,3	

51162 VERTEX - Thermoregulator VTF

- The Fuzzy Logic Technology allows to use the instrument in many applications, where a precise thermoregulation is required.
- Possibility to select the time of operation with relative stop of the thermoregulation
- Designed to inset the probe inside the liquid by an easy way.
- The instrument can be used combined to the most common magnetic stirrers having the predisposition to the contact thermometers.
- Connected to the accessory PW 10, it can be used with all the heating apparatus: water or oil baths, heating plates, theromantles, etc.

Technical specifications:

- Measuring range: $-10^{\circ}\dots\dots+300^{\circ}\text{C}$.
- Precision: $\pm 0,5^{\circ}\text{C}$.
- Stainless steel probe PT100 (250mm length-diameter 3 mm).
- Selectable time: up to 24 h 59 min.
- Safety systems with display visualization and automatic stop when:
 - shorted probe
 - interrupted probe
 - temperature overshoot
- Protection class IP54.
- Visualization of the residual time and the max. temperature reached.
- Dimensions: 60x85x130 mm.



VERTEX accessories:

- 51163 Derivation element PW10 (Max. 10A)
230V-50 Hz
- 51165 Probe extension cable, length 1 m



Vortex mixers

51076 Vortex mixer ZX3

- Vortex mixer for tubes, microtubes, microplates, small matrass.
- Pick-up attachment: 55 mm diameter.
- Continuous operation, with regulable speed or discontinuous with constant vibration.
- Stirring frequency: 0...40 Hz.
- Dimensions: 150x150x134 mm.
- Power: 45w.
- Weight: 2 Kg.
- 220-240V/50 Hz.



51071 Vortex mixer RX 3

- Vortex mixer for tubes, microtubes, microplates, small matrass.
- Pick-up attachment: 55 mm diameter.
- Operation by presion with constant vibration.
- Dimensions: 150x150x134 mm.
- Power: 45w.
- Weight: 2 Kg.
- 220-240V/50 Hz.



Accessories:

- 51148 Stand for 25 eppendorf type tubes
- 51147 Stand for microtiter plate
- 51149 Supporting plate 90 mm diameter

51075 Vortex WIZARD

- Provided with an innovative operational mode "SENSOR" based in optical technology. Sensor system detects through **infrared system** (IR) the presence of the test tube and automatically the vibration is activated.
- There is not need to apply pressure to activate and maintain the vibration.
- Low profile and ergonomic design.
- High electric protection degree (IP42).
- Electronic speed control.
- Speed range: 0...3.000 rpm.
- Operation:
 - Sensor: automatic by IR detection.
 - Continuous by speed regulator.
- Orbital diameter: 4,5 mm.
- Load capacity: 0,5 Kg.
- Dimensions: 180x220x70 mm.
- Power: 30w.
- Weight; 2,4 Kg.
- 220-240V/50 Hz.

51074 Vortex CLASSIC

- Operation:
 - Touch- allows the mixing activity by a light pressure of the test tube on the cup head.
 - Continuous by speed regulator.
- Electronic speel control.
- Speed Range: 0...3.000 rpm.
- Orbital diameter: 4,5 mm.
- Load capacity: 0,5 Kg.
- Dimensions: 180x220x70 mm.
- Power: 30w.
- Weight: 2,4 Kg.
- 220-240V/50 Hz.

Wizard-Classic accessories:

- 50182 Foam stand for 19 microvials 1.5 ml
- 50183 Customizable soft foam top
- 50184 Foam stand 5 test tubes Ø 16mm
- 50185 Foam stand for microtiter
- 50186 Small rubber supporting plate Ø 50 mm
- 50187 Big foam supporting plate Ø 94 mm



Vortex mixers

51925 Vortex for microtubes - Mini Centrifuge FX

- Vortex for tubes and microtubes.
- Central headstock for tubes mixing.
- Rotor 12x1,5ml and Rotor 12x0,5/0,2ml included.
- Autostop by opening the lid.
- Constant rotation speed at 2400 rpm (700xg).
- 2 working modes: continuous and impulse.
- Dimensions: 170x220x120 mm.
- Weight: 1,7 Kg.
- 220-240V/50-60 Hz.



51928 Vortex for microtubes - Mini Centrifuge FXD

- Vortex for tubes and microtubes.
- Microprocessor controlled.
- Central headstock for tubes mixing.
- Rotor 12x1,5ml and Rotor 12x0,5/0,2ml included.
- Autostop by opening the lid.
- Regulable speed range from 1000 up to 3500 rpm (1000xg).
- 3 possible gears for tubes mixing.
- Programmable timer.
- Dimensions: 170x220x120 mm.
- Weight: 1,8 Kg.
- 220-240V/50-60 Hz.



Accessories:

Rotor for 2x8 section 0,2ml microtube strips PCR
Rotor for 8x2ml + 8x0,5ml

51924 Vortex for microtubes - Mini Centrifuge LX

- Central headstock for tubes mixing.
- Rotor 12x1,5ml and Rotor 12x0,5/0,2ml included
- Constant rotation speed at 2400 rpm (700xg).
- 2 working modes: continuous and impulse.
- Dimensions: 120x170x120 mm.
- Weight: 1,5 Kg.
- 220-240V/50-60 Hz.

Accessories:

51943 Rotor for 2x8 section 0,2ml microtube strips PCR

51944 Rotor for 8x2 ml + 8x0,5 ml

51916 Vortex for microtubes Multiple MX

- Constant rotation speed at 2400 rpm (700xg).
- 2 working modes: continuous and impulse.
- Platform for 16 x 0,5 - 2,0 ml microtubes.
- Orbit 2,5 mm.
- Dimensions: 120x155x140 mm.
- Weight: 2,3 Kg.
- 220-240V/50-60 Hz.



Thermo-shaker for microtubes and microplates

See pages 21 and 76

Orbital ant to and fro shakers

6113 Orbital shaker KM 2

- Circular rotation.
- Shaking plate dimensions 200x295 mm.
- Speed range: 30-420 rpm, electronically adjustable.
- Maximum load: 2 kg.
- Stroke: 8 mm.
- Timer: 0-120 min or continuous operation.
- Basic tray with rim (20 mm) incl.
- Universal tray with spring clamps available as option (4 x 500 or 15 x 100 ml).
- Dimensions: 225x410x125 mm.
- Weight 5 kg.
- Voltage: 230V/50-60 Hz.

Accessories:

- 3265 Universal tray without clamps
Adapter clamps for Erlenmeyer, flask... (see page 10).
- 3224 Tray with 2 rollers
- 3228 Universal tray "mini"



6114 Orbital shaker KM 2 with battery

- Circular rotation.
- Shaking plate dimensions 200x295 mm.
- Operation with 24V battery.
- Minimum running time of 24 hours with maximum load.
- Battery charger included.
- Basic tray with rim (20 mm) incl.
- Speed range: 30-420 rpm, electronically adjustable.
- Maximum load: 2 kg.
- Stroke: 8 mm.
- Timer: 0-120 min or continuous operation.
- Climatic classification: KW according to DIN 40040.
- Dimensions: 225x410x125 mm.
- Weight: 6 Kg.



6115 Orbital and to and fro shaker KL 2

- Circular rotation and to and fro motion.
- Speed range: 30-420 rpm, electronically adjustable.
- Maximum load: 2 kg.
- Stroke: 8 mm.
- Timer: 0-120 min or continuous operation.
- Shaking plate dimensions 300x 300 mm.
- Integrated rack system with 3 clamping strips means of the clamping strips (Erlenmeyer, beakers...) up to 6 x 250 ml.
- Dimensions: 355x455x195 mm.
- Weight: 12,5 Kg.
- Power supply: 230V/50-60 Hz.



Orbital and to and fro shakers KS 15

General characteristics:

- Electronic speed control from 30 up to 420 r.p.m.
- Maximum load: 15 kg.
- Maximum Erlenmeyer capacity:
 - (24x100 ml, 15x250 ml, 9x500 ml, 5x1000 ml, 2x2000 ml).
- Orbit: 17 mm.
- Timer from 0- up to 120 minutes or continuous operation.
- **Control** serie with timer from 1 min up to 30 hours
- Several options for working platforms.
- Platform is not included: see accessories.
- Working surface: 400x300 mm.
- Can be combined with a incubator hood.
- **Control** serie: for reproducible works, can be stored 10 programs and can be displayed and regulated all the selected and actual values.
- Dimensions: 515x495x235 mm.
- Weight: 22 Kg.
- Voltage: 230V/50-60 Hz.

Code	Model	Motion	Price
6107	KS 15A	Orbital	
6108	KS 15A CONTROL	Orbital	
6109	KS 15B	To and fro	
6119	KS 15B CONTROL	To and fro	

Accessories:

- 3415 TH15 incubator hood
- Electronic temperature regulation from +5°C above room temperature up to 50°C (60°C optional).
 - PT 100 temperature sensor.
 - Accuracy: $\pm 1\%$.
 - Air circulation: 240 m³/hora.
 - Coated metal housing with 3 windows, front door opens upwards.
 - Can be combined with KS15 or Timix 5 shakers or used as independent unit.
 - Safety stop when the front door is opened.
 - Inner Dimensions: 490x410x310 mm.
 - Outer dimensions: 510x460x450 mm.
 - Weight: 19 Kg.
 - 230V-50/60 Hz.

3416 Extended temperature range up to 60°C

3423 3 clamping strips tray

3424 Universal tray for clamps, racks....

3485 Tray for 8 microtiter plates

3465 Test tube tray

3471 Tray for separating funnels

Clamps for Erlenmeyers from 10 ml up to 2000 ml

Rack for tubes from 14 up to 30mm



Orbital and to and fro shakers SM 30

- With circular rotation SM30A, to and fro motion SM30B or both type for motion SM30C.

General characteristics:

- Electronic speed control from 15 up to 300 r.p.m.
- Maximum load: 30 Kg
- Maximum Erlenmeyer capacity: 49x100 ml, 23x250 ml, 15x500, 11x1000 ml, 6x2000 ml or 5 test tube racks.
- Orbit: 26mm (A y C) or 30 mm (B) (46 mm optional).
- Timer from 0 up to 120 minutes or continuous operation.
- **Control** serie with timer from 1 minute up to 30 hours.
- Several options for working platforms.
- Platform is not included: see accessories.
- Working surface: 560x400 mm.
- Can be combined with a incubator hood.
- **Control** serie: for reproducible works, can be stored 10 programs and can be displayed and regulated all the selected and actual values.
- Ambient operating range: +5°C up to 50°C and humidity 85%.
- Protection IP 21.
- Dimensions: 680x615x160 mm.
- Weight: 32 Kg.
- Voltage: 230V/50-60 Hz.

Code	Model	Motion	Price
6207	SM 30A	Orbital	
6209	SM 30B	To and fro	
6206	SM 30C	Orbital and To and fro	
6217	SM 30A Control	Orbital	
6219	SM 30B Control	To and fro	
6216	SM 30C Control	Orbital and To and fro	

Accessories:

- 3315 Incubator hood TH30
- Electronic temperature regulation from +5°C above room temperature up to 50°C. (60°C optional)..
 - PT 100 temperature sensor.
 - Accuracy: $\pm 1\%$.
 - Lighting with 15W UV light.
 - Standard light 15W.
 - Safety cut-off of UV light and stop of the shaker when the front door is opened.
 - Height sufficient for 2 liters Erlenmeyer flask.
 - Air circulation: 240 m³/hour.
 - Coated metal housing with 3 windows, front door opens upwards..
 - Can be combined with SM 30 shakers or used as independent unit.
 - Inner dimensions: 660X540X430 mm.
 - Outer dimensions: 680X610X560 mm.
 - Weight: 33 Kg.
 - 230V-50/60 Hz.
- 3316 Extended temperature range up to 60°C
- 3346 Preinstallation of cooling coil and connectors
- 3318 Rack with 5 clamping strips h.
- 3324 Universal tray for clamps, racks,...
- 3365 Test tube tray
- 3371 Tray for separating funnels
- 3322 2-storey top frame
- Erlenmeyer adapters, test tube racks....



Erlenmeyer adapters

- For universal trays for the KL 2, KS 15, SM 30 y VKS 75 shakers.

Code	Erlenmeyer flasks	Max. capacity of adapters				Price
		KM-2	KS-15	SM-30	VKS-75	
3450	10 ml	58	68	117	280	
3451	25 ml	29	34	64	138	
3452	50 ml	27	27	63	136	
3454	100 ml	24	24	49	62	
3455	500 ml	8	9	15	35	
3456	1000 ml	5	5	11	21	
3457	2000 ml	2	2	6	12	

Test tube racks

- For universal trays for the KL 2, KS 15, SM 30 y VKS 75 shakers.

3444	Tube rack for 68 tubes up to Ø 14 mm
3446	Tube rack for 44 tubes up to Ø 16 mm
3448	Tube rack for 44 tubes up to Ø 18 mm
3449	3449 Tube rack for 14 tubes up to Ø 30 mm

Multi-flask shaker VKS 75

- With circular rotation VKS75A and to and fro motion VKS75B.

General characteristics:

- Electronic speed control from 40 up to 200 r.p.m.
- Maximum load: 75 Kg.
- Maximum Erlenmeyer capacity: 62x100 ml, 52x250 ml, 35x500 ml, 21x1000 ml, 12x2000 ml or 8 test tube racks.
- 2 additional trays can be superposed:
 - Orbit VKS75A: 26 mm
 - Orbit VKS75B: 50 mm (36,60 y 80 mm optional)
- Timer from 1 minute up to 30 hours or continuous operation.
- **Control** serie: for reproducible works, can be stored 10 programs and can be displayed and regulated all the selected and actual values.
- Several options for working platforms.
- Platform is not included: see accessories.
- Working surface: 760x600 mm.
- Ambient operating range: +5°C up to 50°C and humidity 85%.
- Protección IP 21.
- Dimensions: 1045x840x270 mm.
- Weight: 114 Kg.
- Voltage: 230V/50-60 Hz.

Code	Model	Motion	Price
6175	VKS 75A CONTROL	Orbital	
6177	VKS 75B CONTROL	To and fro	

- 3218 6 clamping strips tray
- 3225 Universal tray for clamps, test tube racks...
- 3267 3-storey top frame
(For further configurations depending on elements to shake
Flasks, Erlenmeyer,..... Consult)

Spring clamps (for Erlenmeyer)



Incubators shakers with orbital motion

Technical specifications

- Inner made of stainless-steel.
- Air force circulation.
- Front door opening.
- Regulable orbital motion.
- Special auto-power-off safety device against overheating, for opening the cover, and for wrong motions..
- Electronic control for parameters regulation: temperature, time and shaking speed.
- LCD display and contro panel to visualize the following functions:
 - Visualization of incubator shaker operation.
 - Overheat indicator
 - Function of timing.
 - Function of working temperature.
 - Function keys for increase and decrease values.
 - Function key for start and pause.
 - Function key for shaker activation.
 - Compressor group indicator (models 200 and 111).
 - Cooling selector (model 200).



Incubator shaker 100B and 100C

- Temperature range +5°C above room temperature up to 50°C.
- Speed range from 60 up to 300 rpm.
- Resolution 1 rpm.
- Orbit range: 24-32-38 y 50mm.



Code	Model	Capacity Erlenmeyers	Platform cm	Dimensions cm h-w-d	Power W	Weight Kg	Price
6301	100C	9x100 ml, 7x250 ml	28x22	39 x 44 x 41	250	45	
6303	100B	25x100 ml, 12x250 ml 9x500 ml, 9x1000 ml	40x37	51 x 60 x 58	350	67	

Accessories:

6315	Clamps for Erlenmeyer 50 ml	6318	Clamps for Erlenmeyer 500 ml
6316	Clamps for Erlenmeyer 100 ml	6319	Clamps para Erlenmeyer 1000 ml
6317	Clamps for Erlenmeyer 250 ml	6321	Platform with flexible springs
6325	Support with test tube rack		



Incubator shaker refrigerated Model 200

- Temperature range from 4°C up to 50 °C.
- Speed range from 60 up to 400 rpm.
- Resolution 1 rpm.
- Orbit range: 24-32-38 y 50 mm.
- Folding securized glass doors.



Code	Model	Capacity Erlenmeyers	Platform cm	Dimensions cm h-d-w	Power W	Weight Kg	Price
6305	200	30x100 ml, 16x250 ml 12x500 ml, 12x1000 ml	45x40	55 x 73 x 69	400	80	

Floor incubator shaker Refrigerated Model 111

- Temperature range: from 4°C up to 50 °C.
- Speed range: from 60 up to 300 rpm.
- Resolution 1 rpm.
- Orbit: 26 mm.
- Upper visual glass door.



Code	Capacity Erlenmeyers	Platform cm	Dimensions cm h-w-d	Power W	Weight Kg	Price
6307	48x100 ml, 38x250 ml 28x500 ml, 24x1000 ml	92x50	80 x 120x 65	425	145	

Accessories:

6315	Clamps for Erlenmeyer 50 ml	6318	Clamps for Erlenmeyer 500 ml
6316	Clamps for Erlenmeyer 100 ml	6319	Clamps para Erlenmeyer 1000 ml
6317	Clamps for Erlenmeyer 250 ml	6321	Platform with flexible springs
6325	Support with test tube rack		

Orbital shaker ECOLAN

51301 Orbital shaker ECOLAN 300

General features:

- Electronic speed regulation from 200 to 1200 rpm
- Maximum load: 2,5 Kg.
- Orbit: 3 mm.
- Timer up to 30 minutes.
- Circular and horizontal motion with an induction motor maintenance free.
- Outer Dimensions: 260x250x120 mm.
- Power: 15 W.
- Weight: 6,5 Kg.
- Voltage: 230V-50Hz.



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- 51360 Tray 300x300 mm with rim and non-skid surface
 - 51340 2 clamping strips tray
 - 51320 Tray for 4 microtiter plates
 - 51325 Universal tray to adapt clamps for Erlenmeyers
 - 51321 Set of 12 Adapters for Erlenmeyer 100 ml
 - 51322 Set of 7 Adapters for Erlenmeyer 250 ml
 - 51323 Set of 4 Adapters for Erlenmeyer 500 ml
 - 51424 Adapter for Erlenmeyer 1000 ml
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51401 Orbital shaker ECOLAN 400

General features:

- Electronic speed regulation from 25 to 300 rpm.
- Uniformity rpm: 1%.
- Maximum load: 10 Kg.
- Orbit: 20 mm.
- Timer up to 60 minutes.
- Circular and horizontal motion with an induction motor maintenance free.
- Outer Dimensions: 390x150x370 mm.
- Power: 50 W.
- Weight: 20 Kg.
- Voltage: 230V-50 Hz.



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- 51440 Platform 500x400mm with rim and non-skid surface
 - 51442 Clamping strips tray
 - 51444 Universal tray to adapt clamps for Erlenmeyers
 - 51421 Adapter for Erlenmeyer 100 ml
 - 51422 Adapter for Erlenmeyer 250 ml
 - 51423 Adapter for Erlenmeyer 500 ml
 - 51424 Adapter for Erlenmeyer 1000 ml
 - 51426 Adapter for Erlenmeyer 2000 ml
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Three dimensional shakers

- 6117 Three dimensional shaker TL 10**
- Three dimensional orbital motion, with an adjustable tilt angle from 0 to 9°
 - Electronic speed regulation from 1 up to 23 rpm.
 - Non-skid surface.
 - Maximum load: 10 Kg.
 - Timer from 0 up to 120 minutes or continuous operation.
 - Basic tray 340x340 mm, included.
 - Weight: 13 Kg.
 - Outer Dimensions: 355x455x205 mm.
 - Voltage: 230V/50-60Hz.
- 3127 Rack system with 2 additional trays**
- For TL 10 shaker.
 - Dimensions of each additional trays 340x340 mm.
 - Non-skid surface.



- 51371 Three dimensional shaker 25XL**
- Speed range from 5 up to 120 rpm.
 - Platform tilt angle 7° fix.
 - Shaking tray: 300x300 mm, included.
 - Maximum load: 5 Kg.
 - Safe for coldrooms (4° - 70°).
 - Ideal for gels and membranes.
 - Possibility of adapt a double tray (optional).
 - Dimensions: 330x360x150 mm.
 - Weight: 6 Kg.
 - 230V-50 Hz.



- 51376 Rack system with 2 additional trays for 25XL shaker**

- 51930 3D shaker**
- Speed range: 10-30 rpm.
 - Platform tilt angle 7° fix.
 - Non-skid platform: 200x200 mm.
 - Maximum load: 500 gr.
 - Safe for coldrooms from 4° up to 45°C.
 - Dimensions: 85x150x80 cm.
 - Weight: 1 Kg.
 - 230V-50 Hz.



- 51931 Adaptor for 26 tubes up to 11mm**
- For 3D shaker.

- 51934 MINI-ROCKER shaker**
- Speed range: 7-30 rpm.
 - Platform tilt angle 7° fix.
 - Non-slip platform: 200x200 mm.
 - Maximum load: 500 gr.
 - Safe for coldrooms from 4° up to 45°C.
 - Digital timer from 1 minute up to 24 hours.
 - Dimensions 1305x150x90 cm.
 - Weight: 1,4 Kg.
 - 230V-50 Hz.



Microplate shakers

6110 TIMIX 2 shaker

- High speed orbital shaker with electronic speed regulation from 100 up to 1.400 rpm.
- Orbit: 3 mm.
- Maximum load: 2 Kg.
- Shaking platform for 4 microplates included.
- Timer from 0 up to 120 minutes and continuous operation.
- Possibility of adapt several platforms.
- Dimensions: 220x390x150 mm.
- Weight: 5 Kg.
- Voltage: 230V/50-60 Hz.



6166 TIMIX 5 shaker

- High speed orbital shaker with electronic speed regulation from 100 up to 1.400 rpm
- Orbit: 3 mm.
- Maximum load: 15 Kg.
- Several microplate platforms availables and possibility of adapt platforms for Erlenmeyer, flask etc shaking.
- Timer from 0 up to 120 minutes and continuous operation.
- CONTROL serie (optional) with digital display (set values/ actual values) and programmable control.
- Can be combined with incubator hood TH 15, with high accuracy.
- Dimensions: 460x470x188 mm.
- Weight: 18 Kg.
- Voltage: 230V/50-60 Hz.



TIMIX 5 Accessories:

- 3485 Platform for 8 microplates
- 3486 Rack sistem to superpose capacity 8 microplates
- 3487 Platform up to 16 microplates
- 3488 Platform for 24 microplates
- 3415 Incubator hood TH15
 - To be combined with TIMIX 5

- 51204 4 microplates shaker ECOLAN 200**
- Electronic speed control.
 - Speed range from 200 up to 1200 rpm.
 - Orbit: 3 mm.
 - Induction motor maintenance free.
 - Orbital and horizontal motion shaker.
 - Platform for 4 microplates included.
 - Timer up to 30 minutes.
 - Dimensions: 170x210x120 mm.
 - Power: 60 W.
 - Weight: 3,2 Kg.
 - Voltage: 230V/50 Hz.



- 51255 Platform for 4 microplates**

- 51914 MINI shaker for 2 microplates**
- Electronic speed control.
 - Speed range from 150 up to 1000 rpm.
 - Orbit: 2 mm.
 - Orbital and horizontal motion shaker.
 - Platform for 2 microplates included.
 - Timer up to 24 HORAS.
 - Dimensions: 175x185x95 mm.
 - Weight: 2,0 Kg.
 - Voltage: 230V/50Hz.



- 51913 Optional platform for 4 microplates**

Thermo-shaker for microplates

- 51912 Thermo shaker for 2 microplates MICROTITER**
- Provides several functions in one instrument: Shaker, thermoshaker and incubator.
 - Microprocessor controller for: temperature time, and speed.
 - Speed range from 250 up to 1200 r.p.m.
 - Temperature range: 25-60°C.
 - Accuracy: 0,1°C.
 - Timer from 1 min. up to 96 hours.
 - Thermostatted platform for 2 microplates and heating upper lid.
 - Dimensions: 270x260x125 mm.
 - Weight: 6,2 Kg.
 - 12V, 4,16 A



- 51921 Thermo shaker for 4 microplates MICROTITER**
- Similar characteristics than 51912.
 - Capacity: 4 96-well microtest plates.



Rotary shaker

51780 Rotary shaker

- Made of epoxy painted stainless steel.
- Speed: 9 r.p.m. fix.
- 36 tube clamps for tubes with diameter from 12 up to 16 mm.
- Disk diameter: 250 mm.
- Dimensions: 210x180x250 mm.
- Weight: 4 Kg.
- Power: 20 W.
- Voltage: 230V/50-60 Hz.

51784 Regulable rotary shaker

- Made of epoxy painted stainless steel.
- Speed setting from 0 up to 36 r.p.m.
- 36 tube clamps for tubes with diameter from 12 up to 16mm
- Disk diameter: 250 mm.
- Dimensions: 210x180x250 mm.
- Weight: 4 Kg.
- Power: 20 W.
- Voltage: 230V/50-60 Hz.

51785 Rotor with 36 tube clamps for microtubes (microtubes diameter 8 and 11 mm)

51786 Rotor with 8 tube clamps for microtubes 26-35mm Ø

51938 Rotary shaker

- Vertical orbital motion.
- Speed range: 5 - 30 rpm.
- Digital timer for 24 hours work.
- Standard platform for 24 microtubes up to 14 mm diameter. (for 1,5 and 2 ml microtubes too).
- Optional platform for 8 tubes up to 30 mm. (Falcon type tubes of 50 ml).
- Dimensions: 255x145x130 mm.
- Weight: 2 Kg.
- 12V- 500mA.

51939 Platform 8x50ml

51937 Programmable rotatory shaker

- Intelligent shaker with different programmable motion phases.
- Microprocessor controlled.
- Speed range: 5 - 30 rpm. (Vertical and reciprocal rotation mode).
- Programmable timer: 0-250 seg. (Vertical and reciprocal rotation mode)
- Turning angle of reciprocal rotation mode: 15-90°.
- Turning angle of vortexing mode: 0 a 5°.
- General timer: 24 hour.
- Standard platform: 22 tubes up to 15 mm diameter. (for 1,5 y 2 ml microtubes too)
- Optional platform for 4 tubes up to 30 mm diameter (Falcon type tubes of 50ml).
- Dimensions: 310x110x1175 mm.
- Weight: 1,6 Kg.
- 12V- 500mA.

51936 Platform 4x50ml + 12 (2-15 ml)



51744 Orbital shaker "CLINIC"

- Recommended in analytical tests with stirring: Alpha, Kline, Manzini...
- 360°C rotatory movement.
- Working plate 260x260 mm.
- Speed range: 70 a 250 rpm.
- Orbit: 10 mm.
- Timer up to 60 minutes and continuous working.
- Analogical speed indicator (tachometer).
- Maximum load: 1 Kg.
- Dimensions: 290x320x195 mm.
- Power: 44 Wat.
- Weight: 3,5 Kg.
- Voltage: 230V/50 Hz.



51724 GYROMINI shaker

- Shaker-mixer for microtubes, blood tubes....
- Dimpled rubber mat with capacity for: 60 x 1,5 ml microtubes, 30 x 3 ml tubes, 21 x 7ml standard blood tubes, 17 x 15 ml tubes or 9 x 50 ml tubes.
- Speed fixed 20 r.p.m.
- Angle fixed 20°.
- Dimensions: 24x17x15 cm.
- Weight: 0,9 Kg.
- 230V-50 Hz.



51788 Roller-mixer

- Shaker with 5 gyratory rollers, with double motion.
- Simultaneous shaking of tubes with different sizes.
- Dimensions: 235x495x114 mm.
- Weight: 4,3 Kg.
- Power: 7 w.
- Speed range: 40 rpm.



51790 Pipette shaker

- Variable speed control.
- Capacity: 8 pipettes.
- Dimensions: 175x160x90 m
- Weight: 1,1 Kg
- Voltage: 220V-50Hz



Laboratory stirrers for liquids

51052 ES stirrer

- Stirrer for liquids of low to medium viscosity.
- Regulation controlled by a microprocessor.
- Speed range: 50 – 1300 rpm.
- Maximum Stirrable volume (H₂ O): 15 Litros.
- Safety device against overheating.
- Chuck with through hole: 1 up to 10 mm.
- Several range of stirring shafts.
- Power: 35 W.
- Weight: 1,7 Kg.
- Dimensions: 80x200x160 mm.
- Voltage: 220-240V/50-60 Hz.



51152 BS stirrer

- Stirrer for liquids of low to medium viscosity.
- Regulation controlled by a microprocessor.
- Speed range: 50 – 2000 rpm.
- Maximum stirrable volume (H₂ O): 25 Litros.
- Safety device against overheating and motor malfunction, with motor stop.
- Chuck with through hole: 1 up to 10 mm.
- Several range of stirring shafts.
- Power: 60 W.
- Weight: 2,8 Kg.
- Dimensions: 80x196x215 mm.
- Voltage: 220-240V/50-60 Hz.



51055 DLS stirrer

- Stirrer for liquids of medium viscosity
- Regulation controlled by a microprocessor.
- Speed range: 50 – 2000 rpm.
- 2 Digital displays to show set values and actual values.
- Maximum stirrable volume (H₂ O): 25 Litros.
- Safety device against overheating and motor malfunction, with motor stop.
- Chuck with through hole: 1 up to 10 mm.
- Several range of stirring shafts.
- Power: 60 W.
- Weight: 3,0 Kg.
- Dimensions: 80x196x220 mm.
- Voltage: 220-240V/50-60 Hz.



51054 PW stirrer

- High capacity.
- Stirrer for liquid of high viscosity.
- Speed regulation by a microprocessor.
- Speed range: 20 – 1200 rpm.
- Maximum stirrable volume (H₂O): 70 Litros.
- Safety device against motor malfunction ,with motor stop.
- Self bloking chuck with through hole: from 1 up to 10 mm.
- Several range of stirring shaft.
- Power: 120 W.
- Weight: 3,4 Kg.
- Dimensions: 80x196x230 mm.
- Voltage: 220-240V/50-60 Hz.

51056 LH stirrer

- Stirrer for liquid of high viscosity.
- Speed regulation by a microprocessor.
- Speed range: 50 – 2000 rpm.
- Maximum stirrable volume (H₂O): 40 Litros.
- Safety device against overheating and motor malfunction, with motor stop.
- Chuck with through hole: from 1 up to 10 mm.
- Sercial range of stirring shaft.
- Power: 120 W.
- Weight 3,4 Kg.
- Dimensions: 80x196x230 mm.
- Voltage: 220-240V/50-60 Hz.

51057 DLH stirrer

- Stirrer for liquid of high viscosity.
- Speed regulation by a microprocessor.
- 2 Digital displays showing clearly the set and the effective speed
- Speed range: 50 – 2000 rpm.
- Maximum stirrable volume (H₂O): 40 Litros.
- Safety device against overheating and motor malfunction, with motor stop.
- Chuck with through hole: from 1 up to 10 mm.
- Serveral range of stirring shaft.
- Power: 120 W.
- Weight: 3,4 Kg.
- Dimensions: 80x196x230 mm.
- Voltage: 220-240V/50-60 Hz.

Accessories:

- 111300 Support rod and base
- 111301 Double clamp
- 111304 Stirring shaft with floating blade, stainless steel
- 111305 Stirring shaft with folding blade, stainless steel
- 111306 Stirring shaft with fixed blade, stainless steel
- 111307 Stirring shaft with propeller, stainless steel
- 111308 Stirring shaft with paddle , 6 holes, stainless steel
- 111309 Stirring shaft with turbine, stainless steel
- 111310 Stirring shaft with turbo propeller, stainless steel
- 111311 Stirring shaft with anchor, stainless steel



Viscosity mPa:

Very low:	0-100
Low:	100-1000
Medium:	1000-10000
High:	10000-100000



Art high speed homogenizers

- Scattering - Homogenizing - Emulsifying - Suspension - Disruption - Preparing of samples - to crumble - wet grinding - to mix.....
- High speed homogenizers for disruption of tissues, and in general for several disruption and homogenizing operations.
- Guaranty 5 years

26080 Homogenizer MICRA D-8

- Speed range from 10.500 up to 39.000 rpm.
- Speed with continuous regulation.
- Volume range from 0,1ml up to 20.000 ml.
- Power: 800 W.
- Weight: 1,35 Kg.
- Dimensions: 66x66x210 mm.
- Voltage: 230V-50/60 Hz.

26081 Homogenizer MICRA D-8SI

- Same characteristics that the model MICRA D-8 and extremely silence: 10dB

26030 Homogenizer MICRA D-13

- Speed range: from 8.000 up to 34.000 rpm.
- Speed with continuous regulation.
- Volume range: from 5.000ml up to 50.000 ml.
- Power: 1300 W.
- Weight: 1,85 Kg.
- Dimensions: 70x70x255 mm.
- Voltage: 230V-50/60 Hz.

26010 Homogenizer MICRA D-1 MINI

- Speed range: from 5.000 up to 35.000 rpm.
- Speed with continuous regulation.
- Volume range up to 500 ml.
- Power: 145 W.
- Weight: 1,35 Kg.
- Dimensions: 50x230 mm.
- Voltage: 230V-50/60 Hz.

26033 Homogenizer MICRA D-3 "BATTERY"

- Fixed speed : 18.000 rpm.
- Volume range up to 5.000 ml.
- Weight: 0,8 Kg.
- Dimensions: 66x66x225 mm.
- 12V Battery and charger.



Homogenizing groups

- For small volumes. Can be sterilized. Can be uses with all the homogenizers

26106 Rod group S20 – axel W20

- With teflon joint. Made of stainless steel V4A.

26105 Rod group DS 5/K for small volumes

- Volume range from 0,1 up to 10 ml.
- Inset Maximum/minimum: 50/5 mm.
- Initial particles size: 3mm (hard 0,5 mm).

26108 Disruption group DS-8/P

- Volume range from 1 up to 100 ml.
- Inset maximum/minimum: 90/20 mm.
- Initial particles size: 10 mm (hard 3,5mm).

26109 Disruption group DS-10/KS

- In adjustable plastic tube.
- Disposable plastic.
- Volume range from 5 up to 10 ml.



Accessories: Support, clamps

Ask us for ART Homogenizers general catalogue.

Homogenizing groups (Estator-Rotor)

- Can be sterilized.
- Flexible system, can be adapted to all ART equipment.
- Quick system to change rotor / estator.

26120 DS-20/PG group

- Rotor for solids or in liquids.
- Volume range from 100 up to 5.000 ml.
- Hard samples up to thickness 8 mm.

26122 DS-20/PF group

- Rotor for solids or in liquids.
- Volume range from 100 up to 5.000 ml.
- Hard samples up to thickness 1,5 mm.

26124 DS-20/PG SmR group

- Rotor for fibrous material (cutter).
- Volume range from 100 up to 5.000 ml.
- Fibrous/soft samples up to 100 mm .

26220 DS-20/PF SmR group

- Rotor for fibrous material (cutter).
- Volume range from 100 up to 3.000 ml.
- Fibrous /soft samples up to 50 mm.

26222 DS-20/PG MiR group

- Rotor for disruption.
- Volume range from 100 up to 5.000 ml.
- Hard samples up to 8 mm.

26224 DS-20/PF MiR group

- Rotor for disruption.
- Volume range from 100 up to 5.000 ml.
- Hard samples up to 1,5 mm.

26228 DS-20/PF EmiR group

- Rotor for emulsifying in fluids.
- Volume range from 100 up to 3.000 ml.
- Hard samples up to 1,5mm/ soft samples up to 50 mm.

26230 DS-30/PG group

- Rotor for solids or in liquid.
- Volume from 250 up to 10.000 ml.
- Hard samples up to 12 mm.

26232 DS-30/PF group

- Rotor for solids or in liquid.
- Volume range from 250 up to 8.000 ml.
- Hard samples up to 1,5 mm.

26240 DS-30/PG SmR group

- Rotor for fibrous material (cutter).
- Volume from 250 up to 10.000 ml.
- Fibrous samples up to 150 mm (hard 12 mm).

26242 DS-30/PF SmR group

- Rotor for fibrous material (cutter).
- Volume range from 250 up to 8.000 ml.
- Fibrous samples up to 100mm (hard 1,5 mm).

26252 DS-30/PG MiR group

- Rotor for disruption.
- Volume range from 250 up to 10.000 ml.
- Hard samples up to 12 mm.

26254 DS-30/PF MiR group

- Rotor for disruption
- Volume range from 250 up to 8.000 ml.
- Hard samples up to 1,5 mm.

Ask us for ART Homogenizers general catalogue



Ultrasonic homogenizers

Ultrasonic homogenizers SONOPULS

- For homogenizing of samples, disruption of cells, bacteria, virus and tissues, DNA chains broken down, release of enzymes,...
- Production of thin and stable emulsions, degassing of liquids, acceleration of chemical reactions, homogenizing of residual samples, dispersion of agglomerate,...
- Electronic control of the ultrasonic generator.

20701 SONOPULS HD 2070

- For volumes from 50 ml to 200 ml.
- Possibility of working directly in microtubes.
- Can be used with 2, 3, 6 and 13 mm titanium tips.
- Timer from 1 seg. up to 99 min.
- Processing frequency: 20 kHz.
- Electronic control and digital display for:
 - Adjustable amplitude within a range from 10 to 100% with reproducible results
 - Timer.
 - Process memory 10-100%.
- Complet equipment composed by:
 - GM 2070 generator
 - UW 2070 ultrasound converter
 - SH70G standard horn
 - MS73 titanium microtips of Ø 3 mm for volume range from 100 ml. up to 50 ml.
- Generator dimensions: 257x180x115 mm.
- Weight: 3,5 Kg.
- Power: 70 W.



22001 SONOPULS HD 2200

- For volumes from 50 ml to 1000ml.
- Can be used with 2, 3, 6, 13, 19 and 25 mm titanium tips.
- Timer from 1 seg. to 99 minutos.
- Processing frequency: 20 kHz.
- Electronic control and digital display for:
 - Adjustable amplitude within a range from 10 to 100% with reproducible results.
 - Timer
 - Process memory 10-100%
- Complet equipment composed by:
 - GM 2200 generator.
 - UW 2200 ultrasound converter.
 - SH213G standard horn.
 - TT13 titanium microtip of Ø 13 mm for volume ranges from 5 ml to 900 ml.
- Generator dimensions: 257x180x115 mm
- Weight: 3,5 Kg
- Power: 200 W.



Homogeneizadores por ultrasonidos

Ultrasonic homogenizers

Ultrasound homogenizers: accessories

Accessories:

Titanium tips

- Made of titanium TI-6Al-4V.
- Thermoresistant and autoclavables.



Code	Tip Model	Diameter	Lenght	Volume		Ø minimum Vessel diameter	Price
				HD 2070	HD2200		
20772	MS72	2 mm	191 mm	1 ml-25 ml	2 ml-30 ml	4 mm	
20773	MS73	3 mm	175 mm	2 ml-50 ml	5 ml-90 ml	6 mm	
20776	KE76	6 mm	135 mm	5 ml-100 ml	10 ml-35 ml	8 mm	
22013	TT13	13 mm	3 mm	10 ml-200 ml	20 ml-900 ml	17 mm	
22025	TT25	25 mm	3 mm	—	30 ml-1000 ml	29 mm	

Indirect processing

20762 Accessory BB6 for indirect processing

- With high energy.
- No contamination, no aerosoling.
- For HD2200 homogenizer.
- Possibility of cooling with circulation thermostat (optional).

20763 Tube rack for 6 microtubes to be used in accessory BB6



● 20763



● HD 2200+20762+20763

Quartz tips

- An optional horn SK70GQ is required.
- To be used with HD2070 Homogenizer.

Support stands

20459 Support stand HG5 for Sonopuls

- With base plate.
- Rod and clamp.

20429 Sound proof box LS6

- Reducing noise level up to 20 dB.
- Height adjustable platform.

20416 Sound proof box LS4

- Reducing noise level up to 10 dB.

20418 Remote control for generator

- Foot switching.



● 20459



● 20429

Special Accessories:

Wide range of accessories: continuous flow cells, glass vessel with cooling jacket, for intensive circulation, for gas introduction, probes....