

# MP, MX, MR, MS, CM, PR, MT, SR

## Технические характеристики

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# Mills

## Grinding Mill, A11 basic



### Grinding Mill A11 basic

For small scale, high speed grinding of hard, brittle, or soft, fibrous materials. Comprises drive module with stainless steel beater and shroud which mounts onto a screw-fitting, plastic grinding chamber, volume 80ml. Grinding speed 28000rpm. Maximum running time 5 minutes. With electronic overload protection and overheat safety switch. Overall 85 x 85 x 240mm high. Weight 1.5kg. For 230V 50/60Hz single phase supplies. 160W.

**MP300-20** A11 basic

### Accessories and spares for MP300-20 only

**MP305-09** Coated, hard steel beater for grinding hard, brittle materials with grain size 6 to 7mm

**MP305-11** Cutter knife for grinding soft, fibrous materials

**MP305-16** 250ml grinding container, requires double beater MP305-48 for operation

**MP305-47** Spare beater, stainless steel

**MP305-48** Double beater, titanium for use with MP305-16 only

## Mortar and Pestle Mill

### Mortar and Pestle Mill RM200

For dry or wet grinding of a wide range of materials including ceramics, chemicals, cosmetics, pharmaceuticals, mineral paints, plastics etc. Depending on suitability, samples from 10ml to 190ml can be milled, pulverised and homogenised to an ultimate fineness of approximately 10µm. A choice of accessory porcelain or agate mortars and pestles are available. Sample can be fed into the mortar during operation, maximum feed size 8mm. Pestle pressure is adjustable and reproducible. With digital control. Includes automatic overload cut-out and "quick-stop" motor. Overall 400 x 370 x 450mm W x D x H. Weight 24kg. For 230V 50Hz single phase supplies. Supplied without mortar and pestle which are required for operation.

**MX300-30** RM200

**MX303-05** Mortar for RM200, porcelain

**MX303-07** Mortar for RM200, agate

**MX303-15** Pestle for RM200, porcelain

**MX303-17** Pestle for RM200, agate



MP300-20 with MP305-16



MX300 in use

# Mills

## McCrone Mill

An effective means of reducing samples to sub-micron sizes suitable for x-ray diffraction/fluorescence, infra-red spectroscopy and atomic absorption analysis.

- ◆ Minimal sample damage and contamination
- ◆ Exceptionally homogeneous and reproducible sample distribution
- ◆ Choice of grinding element materials
- ◆ Wet and dry grinding capability

### Operation

The unique grinding action (contact blows and planar shearing) ensures a short grinding time with virtually no sample loss and exceptionally even particle distribution. A choice of grinding elements (agate or corundum) allow wet and dry grinding of many materials, including carbides, nitrides, borides, cement, clay, shale and mica. In use, a 125ml polypropylene grinding jar is filled with an array of 48 cylindrical grinding elements and accepts up to 4ml of sample (2ml is optimal). A timed grinding period can be set between 3 and 30 minutes, depending on the sample, achieving an ultimate fineness of 4 to 5µm, based on the required initial particle size of 0.5mm. There is minimal damage to surfaces and internal structure of the grinding chamber. An accessory sample preparation kit reduces sample material to the required 0.5mm size.

### McCrone Mill

As described. Overall 480 x 175 x 160mm L x W x H. Weight 9kg. For 220-240V 50Hz single phase supplies. Supplied as indicated.

**MR075-05** Mill only (requires grinding set for operation)

**MR075-30** Mill with 2 x sets agate elements, 2 x grinding jars, loading device and pouring cap

### Accessories and spares

#### Sample preparation kit

For preparation of samples to the required 0.5mm particle size. With stainless steel percussion mortar, ten corundum cylinders, 0.5mm mesh sieve and sieve brush.

**MR077-05** Sample preparation kit

#### Agate grinding set

With 50 x agate grinding elements, grinding jar and lid.

**MR077-25** Agate grinding set

#### Corundum grinding set

With 48 x corundum grinding elements, grinding jar and lid.

**MR077-35** Corundum grinding set

**MR077-60** Spare grinding jar and lid



MR075

## Ball Mill



For dry or wet grinding of a wide range of material including: ceramics, chemicals, cosmetics, powders, minerals, paints, printing inks, pharmaceuticals, plastics, etc.

### Model No. 9

For grinding small quantities of material. Variable speed 0 to 350rpm. Accepts either 1 x 0.5 litre or 1 x 1 litre pots. The rubber covered rollers are 48mm diameter and have a usable length of 190mm. The rolling mechanism and ball pots are totally enclosed behind a transparent safety shield. Overall 210 x 250 x 400mm H x W x D. Weight 14kg. For 230V 50Hz single phase supplies. Without pot or ball charge.

**MR102-10** No. 9 variable speed

### Ball Pots

Acid resistant porcelain with flat covers and sealing gaskets. Capacity given is nominal. Without ball charge.

**MR150-10** 0.5 litre

**MR150-15** 1 litre

### Ball Charges

Manufactured in acid resistant porcelain. Selection of different diameters most appropriate for efficient grinding.

**MR153-12** For 0.5 litre pot

**MR153-17** For 1 litre pot



MR102-10

# Mixers

## Waring Blenders – 1 litre

Rugged high speed mixer blenders designed for frequent use in the laboratory to liquify, homogenise, emulsify, chop, cut and grate a wide range of materials.

- ◆ High speed blending up to 22000rpm (without load)
- ◆ Exclusive clover-leaf design dimpled containers promote high turbulence mixing
- ◆ High speed, profiled cutter blade provides substantial shear and produces effective homogenisation
- ◆ Container capacities up to 4 litres     ◆ Fixed and variable speed models

### 'Junior' Models

Container capacities up to a nominal 1 litre. Single speed (approx. 20000rpm). Overall 180 x 210 x 350mm W x D x H. For 230V 50Hz single phase supplies.

- MS132-10** With 1 litre heat resistant glass container
- MS132-20** With 1 litre stainless steel container

### General Purpose Models

Container capacity nominal 1 litre, complete with cover. Solid state, two speed controller, set by positive push button action. Low speed approx. 18000rpm, high speed approx. 22000rpm (without load). Overall dimensions 180 x 210 x 350mm W x D x H. For 230V 50Hz single phase supplies.

	Ref.	Control	Container	Timer sec.
<b>MS153-10</b>	8011EG	2 speed	Glass	—
<b>MS153-15</b>	8011ES	2 speed	Stainless steel	—
<b>MS153-22</b>	8010EG	2 speed	Glass	1 to 60
<b>MS153-27</b>	8010ES	2 speed	Stainless steel	1 to 60

### Variable Speed Models

Container capacity nominal 1 litre, complete with cover. With variable speed control allowing adjustment from 0 to 20000rpm (without load) and on/off switch. Overall dimensions 180 x 210 x 350mm W x D x H. For 230V 50Hz single phase supplies.

	Ref.	Control	Container	Timer
<b>MS154-10</b>	LB20EG	Variable	Glass	—
<b>MS154-15</b>	LB20ES	Variable	Stainless steel	—

### Spare Containers

- MS160-07** 1 litre heat resistant glass with blending assembly, without lid
- MS160-08** Spare stainless steel blade unit only, for MS160-07
- MS160-09** Lid, plastic for MS160-07
- MS160-15** 1 litre stainless steel with blending assembly and stainless steel lid
- MS160-16** Spare stainless steel blade unit only, for MS160-15
- MS160-40** Spare blending assembly only with stainless steel blade for MS160-07 and MS160-15

### Accessories for all 1 litre models

Mini containers. Stainless steel with blending assembly and opaque plastic snap-fit lid. Replace the standard container on 1 litre Waring blenders.

- MS162-30** Capacity 12 to 37ml
- MS162-31** Spare lid for MS162-30
- MS162-33** Capacity 37 to 110ml
- MS162-34** Spare lid for MS162-33
- MS162-36** Capacity 50 to 250ml
- MS162-37** Spare lid for MS162-36

### Mini Pulveriser

For rapid dry grinding of tablets and other friable materials to a fine powder. Stainless steel container and pulveriser blade. Transparent snap-fit lid allows grinding to be viewed. Replaces the standard container on 1 litre Waring blenders. Capacity 75g.

- MS162-80** Mini pulveriser

### Dry Blending Container

Stainless steel container and lid. Chromium plated base with specific blending assembly for dry homogenising and pulverising. Working capacity approximately 500ml. Replaces the standard container on 1 litre Waring blenders.

- MS162-86** Dry blending container

continued on next page

### Please Note

- 1) Capacities given for containers are nominal
- 2) The working capacities of the containers are approximately:  
Maximum 70% of nominal  
Minimum 10% of nominal



MS132-20



MS153-22



MS154-10



MS160-15, MS162-86 is similar



MS162-36, MS162-30, MS162-33 and MS162-80 are similar

# Mixers

## Waring Blenders – 1.5 litre

- ◆ Powerful 2 horsepower motor with choice of control options:
  - Manual, 2-speed, toggle switching
  - Timed, 2-speed, keypad switching, with 0 to 60 second countdown timer
  - Manual, keypad switching with adjustable speed, analogue dial
- ◆ 1.5 litre, Bisphenol A-free, copolyester container which is stackable and with stainless steel blending assembly, graduations and vinyl lid
- ◆ Pulse function available on all models

### 1.5 litre Models

Container capacity 1.5 litres. Heavy-duty, coated steel base with controls as indicated. Maximum speed 24000rpm (without load). Overall 192 x 200 x 452mm W x D x H. Weight: 5.5kg. For 230V 50Hz single phase supplies.

	Ref.	Control	Container	Timer sec.
<b>MS228-10</b>	TBB145E	2 speed	Copolyester	—
<b>MS228-20</b>	TBB160E	2 speed	Copolyester	1 to 60
<b>MS228-30</b>	TBB175E	Variable	Copolyester	—

### Spares and accessories

- MS228-75** Spare 1.5 litre copolyester container and blending assembly with plastic lid.
- MS228-80** Spare blending assembly, stainless steel.

## Waring Blender – 4 litre

- ◆ Heavy duty 3-speed blender with pulse facility
- ◆ Twin-handled, stainless steel container with blending assembly in exclusive clover-leaf design
- ◆ See-through polycarbonate lid secured with toggle clamps

### Three speed, 4 litre Model

Container capacity 4 litres. Stainless steel container with polycarbonate lid which is secured by toggle clamps against a gasket. A centre rubber plug in the lid provides access without removing the lid. Two handles are provided on the container for ease of carrying. The blending assembly features a sealed, precision ball-bearing system for extended life. With powerful 2.24kW motor and 3-speed control with additional pulse facility and membrane keypad. Low speed approx. 15800rpm, medium speed approx. 18000rpm, high speed approx. 20000rpm (without load). Overall 300 x 260 x 660mm W x D x H. Weight 18kg. For 230V 50Hz single phase supplies.

**MS280-35** Ref. CB15E

### Spare Blending Assembly

**MS284-40** Blending assembly, stainless steel

### Accessory

Adapter. Enables 1 litre glass and stainless steel containers and mini containers listed under MS160 and MS162 series to be used on the 4-litre motor base.

**MS285-20** Adapter

### Dry Blending Container

Stainless steel container and lid. Chromium plated base with specific blending assembly for dry homogenising and pulverising. Working capacity approximately 500ml. Fits in place of the standard container. Requires, but does not include, adapter MS285-20.

**MS162-86** Dry blending container

Other Mixers/Blenders – see *Clinical and Shakers* sections.



MS228-20, MS228-10 and -30 are similar



MS280-35

# Mixers

## Roller Mixers, SRT Series



For mixing blood bottles, Bijous, Universals and small bottles using a rocking and rolling action.

- ◆ Choice of models:
  - 6 or 9 rollers
  - Analogue fixed speed or digital variable speed with timer
- ◆ Easily cleaned plastic rollers and drip tray beneath to contain small spillages
- ◆ Removable side panels ensure vessels do not fall off the unit during use
- ◆ Removable rollers allow a variety of bottle diameters to be accommodated
- ◆ Timer models offer choice of 1 second to 90 minutes or 1 minute to 9 hour setting
- ◆ Accessory stacking kit, using magnetic pillars, allows up to three units to be stacked safely (Note: one kit per tier required)
- ◆ Maximum load 10kg

Model	SRT6	SRT6D	SRT9	SRT9D
No. of rollers	6	6	9	9
Speed range	rpm 33	5 to 60	33	5 to 60
Roller L x dia.	mm 340 x 30 — all models			
Overall, W x D x H	mm 240 x 565 x 110 — both models		360 x 565 x 100 — both models	
Weight	kg 5.1 — both models		6.9 — both models	

As described. for 230V 50Hz single phase supplies.

- MS400-30** SRT6, fixed speed
- MS400-40** SRT6D, variable speed
- MS400-60** SRT9, fixed speed
- MS400-70** SRT9D, variable speed
- MS400-95** Stacking kit for MS400-series (1 required for each tier)

## Tube Rotators



### Tube Rotator, fixed speed, SB2

Fixed speed 20rpm. With on/off switch and adjustable tilt angle with setting gauge. Overall 200 x 270 x 240mm W x D x H. Weight 3.2kg. For 230V 50Hz single phase supplies. Requires, but is not supplied with, tube carrier for operation.

**CM470-20** SB2, fixed speed

### Tube Rotator, variable speed, SB3

Variable speed 2 to 40rpm. Generally as CM470-20 but with digital speed control to 1rpm resolution and display, 0 to 999 minute timer with audible alarm at the end of the timed period. Overall 200 x 270 x 240mm W x D x H. Weight 3.2kg. For 230V 50Hz single phase supplies. Requires, but is not supplied with, tube carrier for operation.

**CM470-35** SB3, variable speed

### Accessory tube carriers for CM470 rotators

#### Tube holders

With radial sprung clips which secure tubes firmly but allow rapid loading and unloading. Hold maximum tubes as indicated.

- CM473-03** 40 x 1.5ml micro-centrifuge tubes
- CM473-06** 20 x 9 to 20mm diameter tubes
- CM473-09** 12 x 50ml centrifuge tubes

#### Tube racks

Axially perforated circular racks for gentler mixing of culture tubes. Hold maximum tube number x diameter as indicated.

- CM473-12** 63 x 12mm tubes
- CM473-15** 63 x 16mm tubes
- CM473-19** 30 x 26mm tubes

#### Adapter SB3/Dual

Allows a second tube holder or rack to be mounted, increasing capacity or allowing alternative tube sizes to be accommodated.

**CM473-40** Adapter SB3/Dual



*inset: MS400-40 in use with accessories*



**MS400-40 mounted on MS400-70 with MS400-95**



**CM470-20 with tube holder CM473-06**

# Mixers

## High Speed Vortex Mixers

For the rapid mixing of liquids in test tubes, small flasks, etc.

### Mini-Vortex, SA6

For tubes up to 30mm diameter. Adjustable speed range from 2500 to 4500rpm with 4.5mm orbit. Mixing starts when the flexible cup is depressed. Overall 100 x 100 x 67mm W x D x H. Weight 0.55kg. For 100-240V 50/60Hz single phase supplies. 15W.

**MS495-20** Variable speed SA6

### Vortex Mixer, uniTEXER 1

For tubes up to 30mm diameter. Variable speed up to 4500rpm, with 4.5mm orbit. "Touch start" commences mixing when pressure is applied to the top cup. Overall 100 x 100 x 70mm W x D x H. For 100-240V 50/60Hz single phase supplies.

**MS497-15** Variable speed uniTEXER 1

### Vortex Mixer, Vortex Genie 2

For tubes up to 25ml (and flasks using the 75mm diameter attachment supplied). Die-cast metal, stable housing with noise reducing feet. Adjustable speed range 600 to 2700rpm and switchable continuous or touch operation modes where mixing commences when pressure is applied to the top cap. Overall 122 x 165 x 165mm W x D x H. Weight 4kg. For 220V 50Hz single phase supplies.

**MS500-20** Vortex Genie 2

### Vortex Mixer, PV-1

For gentle to vigorous mixing of 0.5ml, 1.5ml or 15ml tubes. Variable speed from 250 to 3000rpm, with 2mm orbit and switchable continuous or touch operation modes where mixing starts when pressure is applied to the top cup. A 12V d.c. power supply allows use in a cold room or incubator. Overall 82 x 145 x 75 mm W x D x H. For 220-240V 50/60Hz single phase supplies.

**MS510-10** Variable speed PV-1

### Vortex Mixer, V-32

Generally as MS510-10 but fitted with a foam carrier disc drilled with apertures for 16 x 1.5ml, 8 x 0.5ml and 9 x 0.2ml tubes in addition to a cup for single tubes up to 15ml. Variable speed from 500 to 3000rpm, with 2mm orbit and switchable continuous or touch operation modes. With 12V d.c. power supply. Overall 120 x 180 x 100mm W x D x H. For 220-240V 50/60Hz single phase supplies.

**MS510-40** Variable speed V-32

### Vortex Mixer, MPS-1

For high-speed shaking and vortex mixing of 0.2ml to 50ml tubes and microplates. Adjustable speed range 300 to 3000 in 100rpm increments with 3mm orbit and selectable presets including Pulse. With digital setting and display, 0 to 60 minute timer or continuous operation, vortexing platform for single vessels (up to 50ml), skirted PCR, microtitre plates or accessory tube inserts. Overall 234 x 220 x 150mm W x D x H. Weight 4.7kg. For 220-240V 50Hz single phase supplies.

**MS514-15** MPS-1

**MS514-60** P-2-24, insert for 24 x 1.5/2ml tubes

**MS514-65** P-05-32, insert for 32 x 0.5ml tubes

**MS514-70** P-02-05, insert for 24 x 0.5ml, 48 x 0.2ml or 8 x 8 x 0.2ml tube strips

**MS514-75** P-02-96, insert for 96 x 0.2ml tubes, 12 x 8 x 8 x 0.2ml tube strips or 1 x semi- or unskirted PCR plate

### Vortex Mixer, REAX Top

A heavy duty, quiet running mixer with die-cast housing giving a stable base. Adjustable speed range 0 to 2500rpm with 5mm orbit. Continuous or intermittent operation. The top cup can accommodate test tubes up to 20mm diameter. Overall 105 x 134 x 172mm W x D x H. Weight 3.3kg. For 230V 50Hz single phase supplies.

**MS525-20** Variable speed REAX Top

### Vortex Mixer, MultiREAX

Large capacity mixer with electronic feedback control and digital setting with LED display. Adjustable speed range 150 to 2000rpm with 3mm orbit, 0 to 999 minute timer with audible alarm at end of timed period or continuous operation. Supplied with two tube carousels to hold 26 tubes x 10 to 16mm diameter up to 160mm long and 12 tubes x 16 to 32mm diameter up to 120mm long, respectively (only one carousel can be mounted at a time). Overall 270 x 410 x 172mm W x D x H, weight 3.3kg. For 230V 50Hz single phase supplies.

**MS525-45** MultiREAX

### Vortex Mixer, SA7

For rapid mixing of liquids in small vessels. With fixed speed rotation of 2500rpm, low-profile, robust, die-cast body and integral retort rod fixing. Mixing starts when the flexible cup is depressed. Overall 135 x 215 x 78mm W x D x H. Weight 3.2kg. For 90-240V 50/60Hz single phase supplies.

**MS530-60** Fixed speed SA7

### Vortex Mixer, SA8

Generally as MS530-60 but with variable speed from 250 to 2500rpm, touch start or continuous operation modes and flexible cup head which also accommodates interchangeable accessory attachments comprising 1 x microplate holder, a foam insert for use with beakers or flasks up to 500ml, drilled foam block for 8 x 0.2ml, 8 x 0.5ml and 16 x 1.5ml microcentrifuge tubes and a plain foam block for the user to drill. Overall 135 x 215 x 78mm W x D x H. Weight 3.2kg. For 90-240V 50/60Hz single phase supplies.

**MS530-65** Variable speed SA8

### Accessory attachments for MS530-65 only

Comprises microplate cradle, foam insert for vessels up to 500ml, microtube insert for 8 x 0.2ml, 8 x 0.5ml, 16 x 1.5ml tubes and solid foam insert for the user to drill.

**MS532-20** Attachments, SA8/1

Centrifuge-vortexers – see CD125.



**MS495-20**



**MS500-20**



**MS514-15 in use with MS514-65**



**MS525-45**



**MS497-15**



**MS510-10, MS510-40 is similar**



**MS525-20**



**MS530-65, MS530-60 is similar**

# Mixers

## High Speed Vortex Mixers continued

### Heavy-duty Vortex Mixers, Ohaus

Designed for repeated mixing of several samples at once. With choice of analogue or digital setting of speed and time. Orbit: 4.9mm. Operates under "touch" mode when cup head or holder is depressed with range 300 to 3500rpm, or "On" mode for continuous operation from 300 to 2500rpm. The digital model also features a timer which operates from 1 second to 160 hours. Maximum load 1.1kg. Supplied with cup head for single vessel mixing and universal holder with cover and foam insert for 38 x 1.5/2ml microtubes which is interchangeable with accessory inserts for other tube sizes. Overall W x D x H 168 x 241 x 160mm. Weight 6.8kg. For 230V 50/60Hz single phase supplies.

**MS605-10** VXHDAL, analogue control

**MS605-20** VXHDDG, digital control

### Accessory Foam Inserts and Holders

For tubes as indicated.

**MS607-05** 52 x 0.5ml microtubes insert

**MS607-07** 34 x 12-13mm diameter test tubes insert

**MS607-09** 20 x 15-18mm diameter test tubes insert

**MS607-11** 18 x 19-21mm diameter test tubes insert

**MS607-13** 13 x 22-25mm diameter test tubes insert

**MS607-15** 4 x 26-29mm diameter test tubes insert

**MS607-17** 125ml/250ml erlenmeyer flask holder

**MS607-19** 500ml/1000ml erlenmeyer flask holder

### MultiTube Vortex Mixers, Ohaus

For vortex mixing of up to 50 samples simultaneously (using accessory foam racks). With variable speed control from 1200 to 2400rpm (analogue) or 500 to 2500rpm (digital), 0 to 60 second (analogue) or 1 second to 60hours (digital) timer and 3.6mm orbit. In addition the digital model features a "pulse" mode adjustable from 1 to 59 second duration. Maximum load: 4.5kg. Supplied with foam tube carrier for 50 x 12mm diameter tubes. Accessory carriers are available for other tube sizes. Overall W x D x H 384 x 241 x 406mm, weight 19.1kg. For 230V 50/60 Hz single phase supplies.

**MS615-15** VXMTAL, analogue control, 1200 to 2400rpm

**MS615-25** VXMTDG, digital control, 500 to 2500rpm

### Accessory Foam Tube Carriers

For tube diameters as indicated.

**MS617-05** 50 x 10mm tubes

**MS617-10** 50 x 16mm tubes

**MS617-15** 15 x 29mm tubes



**MS605-20**



**MS615-15**



# Mixers

## Stomacher® Lab-Blenders

- ◆ Unique reciprocating paddles blending action
- ◆ No contact between sample and blending paddles
- ◆ Rapid gentle blending
- ◆ Microprocessor control
- ◆ Time settings plus continuous running
- ◆ Safety door lock

### Stomacher® Lab-Blenders

A unique blender using a sealed plastic bag to contain the sample and two reciprocating paddles which apply controlled pressure on the bag. There is no contact between the sample and the machinery. Blending is rapid and takes approximately 30 seconds per sample. The blending action minimises any damage to microbial cells and is very quiet in operation. The 400 Circulator model additionally has an enhanced paddle design and utilises round bottom bags giving improved processing efficiency and is also supplied with spare paddle connectors and 1000 bags. With microprocessor control, timer and safety door lock.

Catalogue No.	<b>MS800-05</b>	<b>MS800-10</b>	<b>MS800-25</b>	<b>MS800-30</b>
Model	80 Micro	80	400 Circulator	3500
Capacity	0.25 to 80ml	5 to 80ml	80 to 400ml	1 to 3.5 litres
Overall H x W x D mm	180 x 150 x 290	180 x 150 x 290	330 x 240 x 460	410 x 460 x 480
Weight kg	10	10	20	32

For 220-240V 50Hz single phase supplies.

**MS800-05** Model 80 Micro

**MS800-10** Model 80

**MS800-25** Model 400 Circulator

**MS800-30** Model 3500

### Bags, polyethylene, Stomacher®

Sterilised by irradiation. Supplied in sealed sachets within bulk carton packs (except MS805-19 and MS805-25 which are in plastic carry packs).

	For model	Size, mm	Sachet qty.	Pack qty.
<b>MS805-10</b>	80 Micro and 80	150 x 100	50	2000
<b>MS805-20</b>	400 <sup>†</sup>	180 x 300	50	500
<b>MS805-22</b>	400 Circulator	180 x 300	50	500
<b>MS805-25</b>	400 Circulator	180 x 300	50	1000 <sup>#</sup>
<b>MS805-30</b>	3500	380 x 510	50	250
<b>MS807-22</b>	400 <sup>†</sup>	180 x 300	5	500
<b>MS807-25</b> (Closure <sup>**</sup> )	400 <sup>†</sup>	180 x 300	10	250
<b>MS807-28</b> (Closure <sup>**</sup> )	400 Circulator	180 x 300	10	250

\*With V-shaped pocket for samples smaller than 1ml. \*\*With flexible closure band. <sup>†</sup>Bags remain available for the superseded Model 400. <sup>#</sup>Plastic carry pack.

**MS807-40** Bag rack for model 80 size bags. Holds 10 bags

**MS807-60** Bag rack for all model 400 size bags. Holds 10 bags

**MS807-80** Bag rack for model 3500 size bags. Holds 3 bags

### Strainer Bags, Stomacher®

Polyethylene with removable inner nylon mesh filter. Sizes as indicated in the table above, thickness 65µm (250 gauge). Irradiated sachets of 10 within a bulk carton packs of 200.

**MS808-09** Strainer bags, for models 80 Micro and 80 only

**MS808-15** Strainer bags, for superseded model 400 only

**MS805-24** Strainer bags, for model 400 Circulator only



**MS800-30**

**MS800-10 (inset) MS800-05 is similar**



**MS800-25**

# Mixers

## Blender Bags



### Whirl-Pak® Blender Bags

Extra heavy-duty, precision-made, polyethylene bags for use with laboratory bag blenders. With tab and wire frame which allows the bag to be held open and writing panel (except MS865-02 and -05, which are plain). The bag can be sealed by pulling the tabs and whirling the bag around the wire. Ethylene oxide gas sterilised. Available plain or with internal filter mesh (330µm perforation) panel which allows separation of layer solids and liquid from the sample. MS865-70 is for use with circulating blenders.

	Size, mm	Capacity, ml	Pack qty.
<b>Standard type</b>			
<b>MS865-02</b>	130 x 190	384	500
<b>MS865-05</b>	150 x 230	710	500
<b>MS865-10</b>	150 x 230	710	500
<b>MS865-20</b>	190 x 300	1627	500
<b>Filter type</b>			
<b>MS865-30</b>	150 x 230	710	250
<b>MS865-40</b>	190 x 300	1627	250
<b>Round bottom seal</b>			
<b>MS865-70</b>	185 x 330	1538	500

## Dilution Pipettor, Acura 810



A purpose designed, two-volume pipettor for performing serial 1:10 dilutions in bacteriology.

- ◆ Two pre-calibrated, fixed volumes of 1ml and 0.1ml in a two-step stroke allows subsequent pipetting of these volumes using the same liquid sample
- ◆ Rigid metal nozzle with replaceable filter accepts accessory, long "straw" tips to aspirate narrow or deep vessels or blender bags (such as Stomacher® bags)
- ◆ Both volumes are calibrated independently
- ◆ Fully autoclavable at 121°C maximum for 20 minutes and easily disassembled for maintenance and cleaning
- ◆ Justip™ tip ejector adjustment and smooth operation enhance operator comfort

### Dilution Pipettor, Acura 810

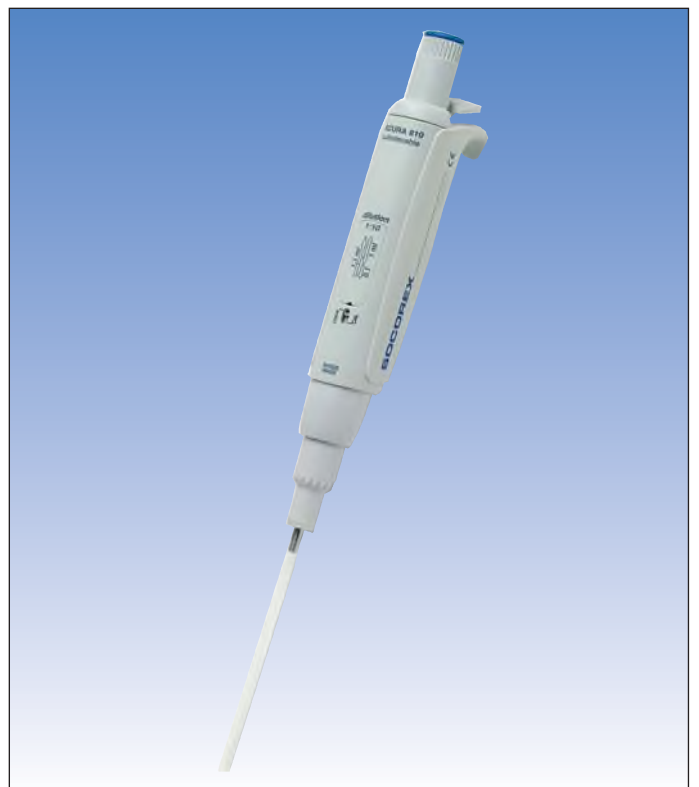
	Volume, ml	Accuracy %
<b>PR540-10</b>	1 (+0.1)	<±0.4 (<±2.5)

### Accessories

- PR543-09** "Straw" tips, polypropylene, sterile, 190 x 4mm length x diameter, supplied in inner sleeves of 25 within a pack of 1000
- PR543-15** Nozzle filters, pack of 100
- PR672-12** Workstation to hold up to 3 pipettors



MS865-40



PR540-10 in use with PR543-09

# Mixers

## SHM-series Homogenisers



Comprise drive module and choice of accessory dispersing heads.

- ◆ Can be used as a hand-held unit or on an accessory stand
- ◆ Sound level <72db
- ◆ Robust housing with IP30 protection level
- ◆ SHM3 additionally has a built-in timer which can be set between 1 second and 10 minutes with a 30 second start delay
- ◆ Accessory, disposable, dispersing heads available for samples with cross-contamination issues. Can be autoclaved/reused up to 7 times

Cat. No.		MT350-10/-12	MT350-30
Model		SHM1	SHM3
Ranges	rpm	5000 to 35000	5000 to 25000
	sample ml	0.03 to 100	0.20 to 5000
Display		–	Digital dot matrix (speed and time)
Overall, L x dia.	mm	160 x 55	216 x 70
Weight	kg	0.5	1.6
Supply requirements		220-240V 50Hz single phase — all models	
Rating	W	125	850

### Drive Modules, SHM series

As described. Supplied with variable speed control and tool kit for dismantling dispersing heads for cleaning. SHM1 is additionally supplied with a clamp holder for mounting onto an accessory stand. SHM3 is supplied with IEC socket, UK and EU plug supply leads. For 220-240V 50Hz single phase supplies.

**MT350-10** SHM1 with UK plug

**MT350-12** SHM1 with European plug

**MT350-30** SHM3 with UK and EU plug leads



MT350-10/-12 in use with MT353-75



Inset: MT350-30



MT353

### Accessories

Dispersing heads for MT350-series.

Cat. No.	MT353-05	MT353-07	MT353-10	MT353-20	MT353-55
Ref.	SHM/5	SHM/7	SHM/10	SHM/20	SHM/DISP
Type*	s/s flat Head	s/s sawtooth	s/s sawtooth	s/s sawtooth	PC sawtooth
Length x dia. mm	75 x 5	115 x 7	115 x 10	195 x 20	110 x 7
Sample volume ml	0.03 to 5	0.25 to 30	1.5 to 200	50 to 2000	0.25 to 30

\*s/s = stainless steel. PC = polycarbonate.

**MT353-05** SHM/5 Dispersing head

**MT353-07** SHM/7 Dispersing head

**MT353-10** SHM/10 Dispersing head

**MT353-20** SHM/20 Dispersing head

**MT353-55** SHM/DISP Dispersing heads, disposable, pack of 25 require MT353-57 for operation

**MT353-57** Adapter for MT353-55 heads to fit MT350- drive modules

### Stand for MT350-series

Purpose built for holding MT350- drives. Base: 220 x 304 x 11mm W x D x H with non-slip surface to stabilise sample vessels in use. Rod: 610 x 16mm L x dia. Weight 3.6kg. Supplied with bosshead and rod to connect directly to MT350-30. The bosshead will also mount the clamp holder supplied with MT350-10/-12.

**MT353-75** SHM/STAND

# Mixers

## Ultra Turrax T10 basic Homogeniser



- ◆ Comprises drive module and choice of accessory dispersing heads
- ◆ Speed adjustable between 8000 and 30000rpm
- ◆ Capacity 0.5 to 100ml depending on dispersing head chosen
- ◆ Can be used as a hand-held unit or on an accessory stand
- ◆ Particle reduction down to 1µm (emulsions), 10µm (suspensions)

### Drive Module, Ultra Turrax T10 basic

As described. Supplied with stepless speed control, range 8000 to 30000rpm, R200 clamp for attaching T10 basic to accessory bosshead and stand, and storage case. For 230V 50/60Hz single phase supplies. 125W. Overall 56 x 66 x 178mm W x D x H. Weight 0.5kg. Requires, but does not include, one or more accessory dispersing heads for operation.

**MT435-67** Drive module T10 basic

### Accessories

Interchangeable dispersing heads. Materials in contact with sample are stainless steel and PTFE. Autoclavable.

**MT435-73** 0.5 to 10ml range, o.d. 5mm, immersion  
20 to 75mm, S10N-5G

**MT435-79** 1 to 50ml range, o.d. 8mm, immersion  
20 to 95mm, S10N-8G

**MT435-85** 1 to 100ml range, o.d. 10mm, immersion  
20 to 100mm, S10N-10G

Stand, with twin rod base and support rod, 242 x 355 x 370mm W x D x H, with 10mm diameter rod. Maximum loading 0.7kg.

**MT435-89** Stand R104

**MT435-94** Bosshead H44 for mounting R200 clamp to stand

## Ultra Turrax T18 digital Homogeniser



- ◆ Comprises drive module and choice of accessory dispersing heads
- ◆ Speed adjustable between 500 and 25000rpm
- ◆ Capacity 1 to 1500ml depending on dispersing head chosen
- ◆ Digital speed display
- ◆ Can be used as a hand-held unit or on an accessory stand
- ◆ Particle reduction down to 1µm (emulsions), 10µm (suspensions)

### Drive Module, Ultra Turrax T18 digital

As described. Supplied with stepless speed control, range 500 to 25000rpm. For 230V 50/60Hz single phase supplies. 300W. Overall 87 x 106 x 271mm W x D x H. Weight 2.5kg. Requires, but does not include, one or more accessory dispersing heads for operation.

**MT440-32** Drive module T18 digital

### Accessories

Interchangeable dispersing heads. Materials in contact with sample are stainless steel and PTFE. Autoclavable.

**MT440-65** 1 to 100ml range, o.d. 10mm, immersion  
25 to 70mm, S18N-10G

**MT440-80** 10 to 1500ml range, o.d. 19mm, immersion  
35 to 170mm, S18N-19G

Stand base plate 200 x 316mm and 16mm diameter stainless steel rod, 800mm high. Maximum loading capacity 5kg.

**MT468-22** Stand R1826

**SR753-09** Bosshead R182 for mounting MT440-30 to stand



**MT435-67 with dispersing head**



**MT440-32 with dispersing head**

# Mixers

## Ultra Turrax T25 digital Homogeniser



For high speed shredding, homogenising and dispersing a wide range of free-flowing materials.

- ◆ Speed adjustable between 500 to 25000rpm
- ◆ Digital speed display
- ◆ Article reduction down to 1µm
- ◆ Can be hand-held or mounted on an accessory stand
- ◆ Operating range up to 2 litres depending on dispersing head chosen
- ◆ Set rotor speed maintained irrespective of viscosity changes during dispersion

### Drive Module, T25 digital

As described. With stepless, adjustable speed control and digital display, range 500 to 25000rpm. Overall 87 x 106 x 271mm W x D x H. Weight 2.5kg. For 230V 50/60Hz single phase supplies. Requires one or more accessory dispersing shafts (MT465-) as selected, for operation.

**MT450-18** Drive module T25 digital

### Accessories for Drive Module T25 digital

#### Dispersing Shafts, Interchangeable

Materials in contact with product are stainless steel and PTFE. Autoclavable.

	Ref.	Range*, ml	Shaft/Stator dia. mm	Rotor dia. mm	Max. depth mm	Ultimate fineness µm (approx.) dispersions emulsions	
<b>MT465-10</b>	S25N-8G	1 to 50	8	6.1	85	10 to 50	1 to 10
<b>MT465-20</b>	S25N-10G	1 to 100	10	7.5	85	10 to 50	1 to 10
<b>MT465-30</b>	S25N-18G	10 to 1500	18	12.7	165	10 to 50	1 to 10
<b>MT465-40</b>	S25N-25G	50 to 2000	25	17	165	15 to 50	1 to 10

\*Range given is for material viscosities up to 200mPas.

### Stand

Base Plate 200 x 316mm and 16mm diameter stainless steel rod, 800mm high. Maximum loading capacity 5kg.

**MT468-22** Stand R1826

**SR753-09** Bosshead R182 for mounting MT450-18 on stand

**MT468-33** Strap clamp RH3 for securing/stabilising sample vessels to stand

## Overhead Stirrer



### Stirrer, RW20 digital

A robust stirrer for processing up to 20 litres of medium viscosity liquids up to 10000 mPas. With digital speed display, adjustable two-speed ranges: 60 to 500 and 240 to 2000rpm, and 1 to 10mm i.d., hollow shafted chuck. Also incorporates an electronic temperature safety cut-out on the motor and 13mm diameter clamping rod for mounting on a stand. Overall dimensions 88 x 212 x 294mm W x D x H. Weight 3.1kg. For 230V 50/60Hz single phase supplies. Without rotor.

**SR750-25** RW20 digital

### Rotors, stainless steel

Suitable for all models. On 8mm diameter shaft.

	Ref.	Impellor length	Shaft
<b>SR753-14</b>	R1375	Blade 70 x 70mm	550mm
<b>SR753-17</b>	R1345	Propellor 4-blade 100mm dia.	550mm
<b>SR753-19</b>	R1300	Dissolving 80mm dia.	350mm
<b>SR753-23</b>	R1312	Turbine 50mm dia.	350mm

Full details and alternative overhead stirrers - see SR550/SR765-series.



**MT450-18 with dispersing head**



**SR750-25 with accessories**

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