

## Hotplates & Magnetic Stirrers

### Hotplate – Ceramic



**US160** Energy efficient, fast response and accurate.

The glass ceramic top gives excellent chemical and temperature resistance, is easy to clean and stays cool at the edges. The cast aluminium body is shaped for stability and also helps deflect spills away from the controls and the user. The instrument is built to a very high standard with fitting for detachable retort stand situated on the back of the instrument.

The "Hot" warning light will flash whenever the plate temperature is above 70°C and will operate even when the hotplate is turned off if the unit is still connected to the mains.

An independent safety circuit protects against overheating and internal electronic components are protected against corrosion.

The models featured have an analogue displayed temperature and speed control.

Maximum temperature 450°C. Heater power 500 watts. Plate area 15 x 15cm.

Overall dimensions – H12.2 x W17.2 x D25.0cm. Weight 2.2Kg.

**H063** US160 Ceramic top hotplate 230v 50/60Hz each

**M131** Retort rod, plated mild steel 600 x 12.0mm dia. each

### Hotplate—Coated Aluminium/Silicon



**UC150** Rugged and reliable hotplate with 15 x 15cm cast aluminium/silicon alloy top which will easily withstand the knocks of everyday use. The cast aluminium body is shaped for stability and also helps deflect spills away from the controls and the user. Fitting for detachable retort stand situated on the back of the instrument.

The "Hot" warning light will flash whenever the plate temperature is above 70°C and will operate even when the hotplate is turned off if the unit is still connected to the mains.

Maximum temperature is 325°C with heater power of 700W.

Overall dimensions – H11.0 x W19.0 x D30.0cm. Weight 3.4Kg

**H059** UC150 Hotplate 230v 50/60Hz each

**M131** Retort rod, plated mild steel 600 x 12.0mm dia. each

### Hotplate/Stirrer Infra red

Very efficient heating saving time and energy

Powerful magnetic stirring

"Hot" warning light for user safety

Chemically resistant ceramic top

Using a very efficient infra red heater of just 900W this stirrer unit will boil 1 litre of water over 30% faster than a conventional ceramic hotplate of 1200W. Rare earth magnets give powerful stirring of up to 15 litres with feedback control from 100 to 1500rpm. This highly efficient stirrer hotplate is ideal when large volumes of liquid need to be heated and stirred, particularly microbiological media.

With fitting for retort rod and supplied with 2 x 25mm followers

**M541** Hotplate/Stirrer Infra red 230v 50Hz

Plate dimensions	300 x 300 mm
Heated area	140 mm
Heater power	900 Watts
Stirrer speed range	100-1500 rpm
Overall dimensions	300 x 365 x 105 mm
Weight	4Kg



## Magnetic Stirrer - Ceramic

**UC151** The general description is the same as for the Ceramic Hotplate. Powerful magnets and motor give stirring speed from 100 to 2000rpm and volumes up to 15 litres (based on 15 litres of water contained in a 20 litre flat bottom boiling flask). Supplied with two 25mm PTFE coated magnetic followers.

Speed range 100 – 2000 rpm.  
Plate dimension - 15 x 15cm.  
Overall dimensions – H10.7 x W17.2 x D24.8cm. Weight 2.0Kg

**M173** UC151 ceramic magnetic stirrer 230v 50/60Hz each  
**M131** Retort rod, plated mild steel 600 x 12.0mm dia. each



## Magnetic Stirrer - Stainless Steel

**US151** A high quality reliable stirrer with powerful drive magnet. Variable speed from 100 – 2000 rpm . The cast aluminium body is shaped for stability and also helps deflect spills away from the controls and the user.

The stainless steel top plate is robust and unlike aluminium does not produce eddy currents so ensuring a very powerful coupling and stirring action.

With facility for retort rod and supplied with 2 x 25mm PTFE coated stirrer bars.  
Overall dimensions – H10.70 x W17.2 x D24.8cm. Weight 2.0Kg

**M129** US151 magnetic stirrer with SS Plate 230v 50/60Hz each  
**M131** Retort rod, plated mild steel 600 x 12.0mm dia. each



## Magnetic Stirrer/Hotplate – Ceramic

Model **UC152** . This instrument has the specifications of the two individual units **H063** and **M173**. Power consumption 500w

Weight 2.9Kg

**M174** UC152 ceramic stirrer hotplate 230v 50Hz 500w each  
**M131** Retort rod, plated mild steel 600 x 12.5mm dia. each



## Digital Magnetic Stirrer

The SAMCO model X1-150 a new generation in stirrer plate design. Ultra thin, at just 13.2mm deep, the model X1-150 electromagnetic stirrer plate works with a breakthrough motorless stirrer mechanism, so there are **no moving parts to require maintenance**.

Features include:

- Smart, slim-line, single station, compact design
- Digital display, with speed selection and timer functions
- Speed selection from 15 to 1500 rpm
- Continuous mode and timer settings from 1-99 minutes
- Pulse mode option - reverses direction every 30 minutes for thorough mixing
- Software enables last run memory and allows gradual stirring acceleration
- Stainless steel, corrosion resistant working area IP 65 compliant design (water spillage resistant)
- Dimensions 156 x 110 x 13.2mm
- Platform size 102.5 x 107mm
- **24V low voltage device for operator safety**

**M547** Model X1-150 digital magnetic stirrer 95-230V 50/60Hz



## Magnetic Stirrer/Hotplate



**SB162** This instrument has the same specifications as the two individual units **H059** and **M129**. Weight 2.9Kg. Power consumption 700w

**M130** SB162 magnetic stirrer/hotplate 230v 50Hz each

**M131** Retort rod, plated mild steel 600 x 12.5mm dia. each

## Magnetic Followers

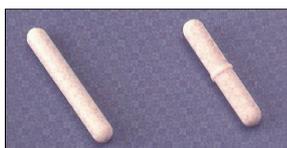
A range of PTFE encased magnetic stirrer followers.

**Cylindrical** - Plain or with centre pivot rim used for routine stirring operations, different lengths give different stirring characteristics.

**Crosshead** - Designed for tube-type containers.

**Oval** - designed for stability at high speeds in round bottom flasks or vessels.

**Triangular** - Particularly effective for dissolving solids and mixing sediments.



Cylindrical



Crosshead



Oval



Triangular

### Cylindrical - Plain & with Rim

Length mm	Plain	Rim	Quantity
12	<b>M132/5</b>	<b>M358/1</b>	3
15	<b>M132/1</b>		3
20	<b>M132/2</b>	<b>M358/2</b>	3
25	<b>M132/3</b>	<b>M358/3</b>	3
40	<b>M132/4</b>	<b>M358/4</b>	3

### Micro Flea with Rim

Length x Diam. mm	Rim	Quantity
7 x 2	<b>M359/1</b>	3
10 x 3	<b>M359/2</b>	3

### Crosshead

Diameter mm	Cat. No	Quantity
10	<b>M360/1</b>	each
14	<b>M360/2</b>	each
17	<b>M360/3</b>	each

### Oval

Length x Diam. mm	Cat. No	Quantity
20 x 10	<b>M361/1</b>	each
25 x 12	<b>M361/2</b>	each
30 x 16	<b>M361/3</b>	each
40 x 20	<b>M361/4</b>	each

### Triangular

Length x Side. mm	Cat. No	Quantity
12 x 6	<b>M362/1</b>	each
25 x 8	<b>M362/2</b>	each
40 x 14	<b>M362/3</b>	each

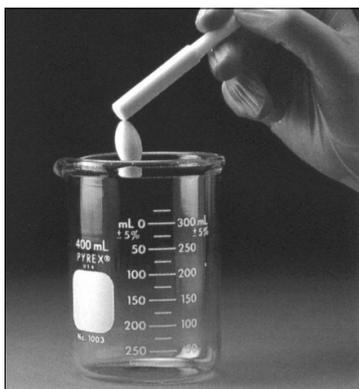
## Magnetic Retriever

Two types available coated in either polypropylene or PTFE. PTFE is only affected by fluorine containing compounds and molten alkali metals. Maximum working temperature of PTFE as coated on followers and retrievers is 300°C.

Both are 350mm long, the polypropylene coated retriever is 10mm diameter and the PTFE is 8mm diameter.

**M175** Magnetic retriever – polypropylene each

**M176** Magnetic retriever – PTFE each



## Halogen Hotplate and Stirrer

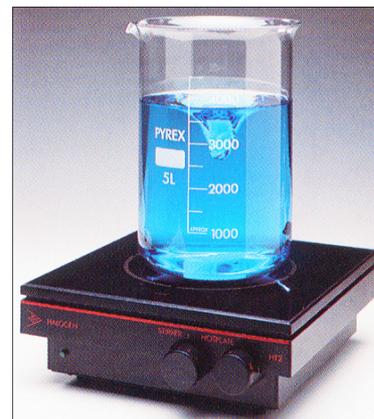
Using the rapid heating characteristics of halogen, these latest hotplates and stirrers are **40% faster** and so **use 40% less energy** than conventional ceramic hotplates. Halogen heating is a recent innovation in laboratory hotplate technology resulting in faster and more efficient heating which is highly controllable. Unlike conventional hotplates most of the energy is used to heat the liquid in the container with minimal energy wasted heating intermediate surfaces such as the plate, air gap and vessel. The elegant glass/ceramic top is *attractive* and *practical*. It is easy to clean, chemical and thermal shock resistant and obviously will not rust or corrode. Safety warning lights alert the user to the top surface heating even after the heater is switched off. The efficiency of the Halogen Hotplate and Stirrer ensures that other surface remain cool even during heating.

### Halogen Hotplate and Stirrer

The Halogen Hotplate HT1 has been designed for maximum stability, providing a safe, convenient heating surface for a wide range of containers and liquid volumes. Vessels up to 5 litres can easily and confidently be accommodated. Halogen heating utilises infra-red energy which directly heats the liquid itself and does not rely on conduction.

#### Specification:

Heater type	Twin infra-red halogen lamps	
Heater output	1.2Kw	
Top surface area	840 <sup>2</sup> cm	
Heating area	420 <sup>2</sup> cm	
Dimensions cm	30L x 30W x 10H	
Maximum temp.	450°C	Weight 4.0Kg



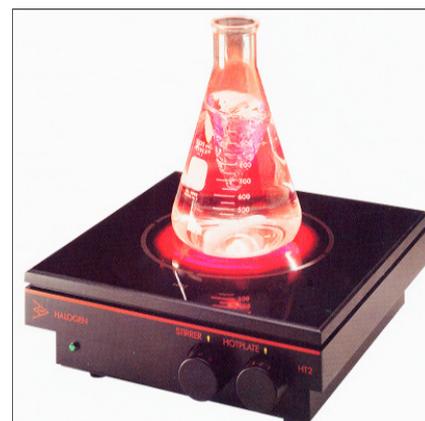
**H066** Halogen hotplate 220/240v 50/60Hz

The Halogen Hotplate and Stirrer has the same dimensions and heating specifications as the Halogen Hotplate but with a sophisticated stirring programme. Stirring speeds are adjustable between 100 and 1000rpm and in addition to automatic gradual acceleration of the bar (which reduces the possibility of decoupling and ensures smooth, continuous stirring on every start), the linear response speed scale makes stirring highly controllable over a wide range of speeds.

**H067** Halogen Hotplate/Stirrer 220v 50/60Hz *Weight 5.2Kg*

#### Accessories

**H068** Retort rod, clamp, boss-head and fixing brackets to suit all models



## Overhead Stirrers

An advanced range of overhead stirrers with the following features:

#### Overload Protection

Protects the stirrer from mechanical overloading and overheating. A microprocessor reduces the power to the motor under strain conditions and will stop the motor if overload becomes critical.

#### Sophisticated Speed Control

Advanced circuitry gives outstanding speed control and maintains the set speed even if the load conditions change. A soft start facility prevents splashing on start-up.

#### Powerful Motor

DC permanent magnet motor gives powerful stirring and reliable performance even when in continuous use.

#### Keyless Chuck

Chuck is very easy to use as the mechanism is operated by hand without the need for a chuck key or any other tool.

#### Robust and Stable Stand

Robust stainless steel support rod and accessory retort stand with H-pattern base for stability.

#### Enclosed Power Lead

Safety feature designed to keep lead away from moving parts and liquid splashes

**Good Choice of Stirrer Paddles** (see next page)

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# Specimen Preparation



## SS10 General Purpose Overhead Stirrer

Easy to use and quiet running. Ideal for day to day laboratory use with aqueous and low viscosity liquids such as light oils up to 15 litres. Good speed control and overload protection, features usually found in more advanced models. Excellent value for money.

**S388** SS10 General purpose stirrer 230v 50/60Hz

## SS20 High Performance Overhead Stirrer

A powerful stirrer designed for demanding applications. Suitable for stirring liquids up to medium viscosity such as oils and media up to 25 litres. The SS20 features a hollow shaft arrangement for simple adjustment of the paddle height without moving the motor.

**S389** SS20 High performance stirrer 230v 50/60Hz

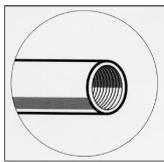
## SS30 Dual Torque Overhead Stirrer

A versatile heavy duty stirrer with the ability to mix high viscosity liquids including heavy oils, up to 40 litres. There are two modes of operation that can be easily alternated: **Mode 1** gives high torque at lower speeds and is ideal for stirring very viscous liquids. **Mode 2** has lower torque at higher speeds and provides brisk mixing of medium viscosity liquids. Also has hollow shaft for easy height adjustment without moving the motor.

**S390** SS30 Dual torque mixer 230v 50/60Hz

To assemble a system select:

- 1) The type of stirrer (e.g. SS20)
- 2) The length of stirring rod(s)
- 3) The type of stirring paddle(s)



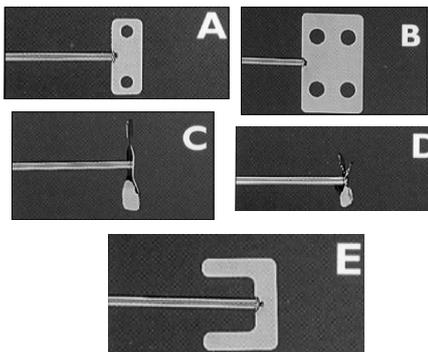
## Stirring Rods

There are two lengths of stainless steel paddle rod and five different paddle heads. The heads screw on so they can be mixed and matched according to stirring requirements.

**R089/350** Paddle rod 8mm Ø x 350mm

**R089/530** Paddle rod 8mm Ø x 530mm

## Stirring Paddles



**P499/A** Small Paddle Head **A** (total width 60mm) Provides gentle mixing of liquids with good tangential flow. For use at low to medium speeds.

**P499/B** Large Paddle Head **B** (total width 94mm). As P499/A but greater size to accommodate larger volumes.

**P499/C** Large Propeller Head **C** (total width 80mm). Two blade propeller giving vigorous mixing action pulling material from the bottom upwards.

**P499/D** Small Propeller Head **D** (total width 50mm). As P499/C but with smaller four blade propeller ideal for mixing very viscous liquids.

**P499/E** Anchor Paddle **E** (total width 60mm). Ideal for slow speed agitation.

Note: These overhead stirrers can also use Quickfit® glass and PTFE paddles.

## Technical Specifications

	SS10	SS20	SS30
Max. stirring capacity (litres)	15	25	40
Max. viscosity range	10,000mPas	20,000mPas	80,000mPas
Max. torque at chuck	15Ncm	27Ncm	90/27Ncm
Speed range	100-2000rpm	100-2000rpm	50-500/100-2000rpm
Chuck range	1.5-13mm	1.5-13mm	1.5-13mm
Dimensions of stirrer W x D x H	85 x 175 x 230mm	85 x 195 x 230mm	85 x 195 x 230mm
Support bar Ø x H	12.7 x 240mm	12.7 x 240mm	12.7 x 240mm
Stirrer stand W x D x H. rod Ø x L	350 x 330 x30/16 x 700mm	350 x 330 x30/16 x 700mm	350 x 330 x30/16 x 700mm