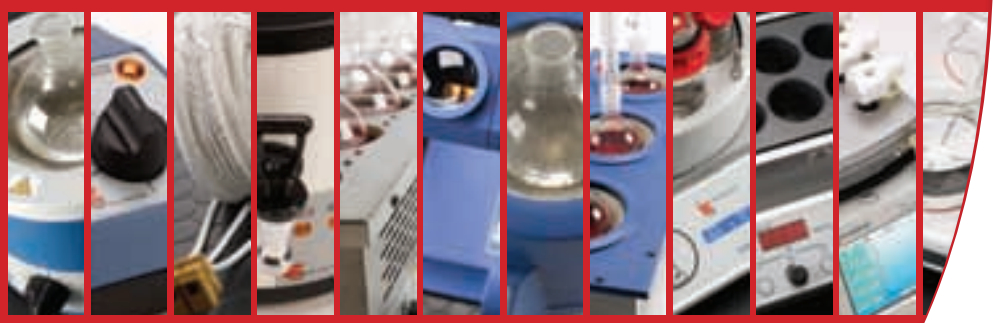
Electrothermal

For all your heating, cooling & stirring needs

- CMU Electromantles
- Controllers
- Heating Cords & Tapes
- Histology & Pathology Products
- Kjeldahl Equipment
- Melting Point Apparatus
- Metal Electromantles
- Multi (Extraction) Mantles
- STEM Omni Reaction Stations
- STEM RS Reaction Stations
- STEM Integrity 10 Reaction Station
- Stirrers



Electrothermal

STEM RS Reaction Stations

Equipment for parallel synthesis

The STEM RS series Reaction Stations enable parallel synthesis to be carried out by offering the same controlled temperature and stirring rates at several reaction positions simultaneously.

The STEM RS Reaction Stations give you a choice of:

- 6 to 50 positions
- Working sample columes of between 10-30ml (but up to 250ml for RS600)
- Operational temperature range of ambient to 150°C
- Optional higher temperature models for up to 300°C
- Powerful stirring rate of between 400 - 2000rpm
- Wide range of accessories

RS600, RS900, RS1000, RS2500, RS5000, RS9000

STEM RS Reaction Stations

The Stem RS Reaction Stations enable parallel synthesis to be carried out by offering the same controlled temperature and stirring rates at several reaction positions simultaneously. They can be used for a wide range of applications from simple synthesis to process optimisation. The RS9000 is the exception in that it carries out controlled heating and shaking, as opposed to stirring.

The STEM RS Reaction Station range accommodates sample sizes from 2ml to 250ml in a wide range of vessel sizes and heating formats. Adaptor sleeves can be used to accommodate non-standard vessel sizes. The well-insulated reaction unit keeps the casework cool-to-touch; it gives quick heat-up times, excellent temperature uniformity across the block, and a thermal cut-out eliminates runaway conditions. High performance magnetic stirrers beneath each sample position ensure maximum coupling between the stirrer bar in the sample and the powerful motor. The combination of precise electronic control and rugged design ensures operator safety, while a PTFE coating protects the unit from chemical spills.

There are 5 models of STEM RS Heater/Stirrer Reaction Stations, giving you a choice of:

- 6 to 50 positions depending upon model (RS600 has 6 positions; RS900 and RS1000 have 10 positions; RS2500 has 25 positions and RS5000 has 50 positions)
- Working sample volumes of between 10-30ml, (but up to 250ml for RS600 only)
- RS600 model accommodates 57.5mm diameter vessels (also accommodates 40mm and other diameter vessels with appropriate adaptor sleeves)
- RS900, RS1000, RS2500, RS5000 models accommodate 24mm/25mm diameter vessels (also accommodate 16mm and other diameter vessels with appropriate adaptor sleeves)
- Operational temperature range of ambient to 150°C (ambient to 250°C for RS600 only)
- Optional higher temperature models for up to 300°C for some models (ie. RS600H, RS1000H)
- Powerful stirring rate of between 400 - 2000rpm, with bi-directional stirring option
- Optional PC-based external control software is available to schedule stir/heat profiles over varying time delays
- Wide range of accessories, including reflux and inerting head accessory, rotary evaporator adaptors, phase separation heads, filtration adaptors, glass condensers, temperature probes, and a selection of stir bars.

Part Code (230V)	PS80034	PS80067	PS80010	PS80025	PS80050
Part Code (115V)	PS80043	PS80068 (24mm)	PS80033 (24mm)	PS80036 (24mm)	PS80037 (24mm)
Model	RS600	RS900	RS1000	RS2500	RS5000
Higher temperature model	RS600H		RS1000H		
Stirred positions	6	10	10	25	50
Tube diameter	57.5 mm	24 or 25mm	24 or 25mm	24 or 25mm	24 or 25mm
Tube diameter with sleeves	40mm	16mm, 20mm	16mm, 20mm	16mm, 20mm	16mm, 20mm
Sample volume	Up to 250ml	10- 30ml	10- 30ml	10-30ml	10-30ml
Stir speed range	400 - 2000rpm	400 - 2000rpm	400 - 2000rpm	400 - 2000rpm	400 - 2000rpm
Soft start (to full ramp)	Adjustable 0 – 10 mins	Adjustable 0 – 10 mins	Adjustable 0 – 10 mins	Adjustable 0 – 10 mins	Adjustable 0 – 10 mins
Temperature Range (Ambient)	Ambient to 250°C Ambient to 300°C for RS600H	Ambient to 150°C	Ambient to 150°C Ambient to 300°C for RS1000H	Ambient to 150°C	Ambient to 150°C
Temp Stability	± 0.5°C	± 0.5°C	± 0.5°C	± 0.5°C	± 0.5°C
Time to max temp	15 min	15 min	15 min	30 min	30 min
Interface port	RS232/RS485 & manual	RS232 & manual	RS232/RS485 & manual	RS232/RS485 & manual	RS232/RS485 & manual
Electrical req. (All 230V)	50/60Hz, 600W	50/60Hz, 300W	50/60Hz, 300W	50/60Hz, 800W	50/60Hz, 800W
Dimensions, (w x h x d), mm	248 x 312 x 157	240 x 140 x 215	80 x 150 x 305	250 x 145 x 365	250 x 145 x 460
Shipping Weight, kg	10kg	5.4kg	4kg	10kg	13.8kg

Key Features

- 6 position reaction station
- 57.5mm diameter vessels
- Can accommodate 40mm and other diameter vessels with appropriate adaptor sleeves
- Sample sizes up to 250ml
- Controlled temperature range from ambient to 250°C
- Powerful stir speed from 400 to 2000rpm
- Bi-directional stir speed
- Manual control or external control via the RS232/RS485 interface ports
- Optional PC-based external control software available to schedule stir/heat profiles over varying time delays
- Variety of accessories available including reflux and inerting head accessory, rotary evaporator adaptors, phase separation heads, filtration adaptors, glass condensers, temperature probes, and a selection of stir bars
- High temperature RS600H option with temperature range from ambient to 300°C
- Compact footprint for easy integration onto a robotic platform

RS600H

High temperature model

STEM RS600

Reaction Station

The RS600 is a six position reaction station designed for 57.5mm diameter vessels (also 40mm and other diameter vessels with appropriate adaptor sleeves), and sample sizes up to 250ml.

With a controlled temperature range from ambient +5°C to 250°C, it has a powerful stir speed from 400 to 2000rpm, including a bi-directional stirring option. It has either manual control or external control via the RS232/RS485 interface ports.

Optional PC-based external control software is available to schedule stir/heat profiles over varying time delays.

The RS600 can be used with a reflux and inerting head accessory, plus a range of accessories including rotary evaporator adaptors, phase separation heads, filtration adaptors, glass condensers, temperature probes, and a selection of stir bars.

It is also available as a high temperature RS600H option with temperature range from ambient to 300°C.

Technical Information

Model	RS600
High temp model	RS600H
Stirred positions	6
Tube diameter	57.5mm
Tube diameter sleeves	40mm
Sample volume	Up to 250ml
Stir speed range	400 - 2000rpm
Soft start (to full ramp)	0 - 10mins (Adjustable)
Temperature range (ambient)	Ambient to 250°C Ambient to 300°C for RS600H
Temperature stability	±0.5°C
Time to max/min temp	15mins
Interface port	RS485 RS232 & manual
Dimensions (w x d x h), mm	248 x 157 x 312
Shipping weight, kg	10kg

Ordering Information

Part Code	Model	Voltage	No. of Bores	Bore Diameter
PS80034*	RS600	230V	6	57.5mm
PS80043	RS600	115V	6	57.5mm
PS80034H*	RS600H	230V	6	57.5mm
PS80043H	RS600H	115V	6	57.5mm

**Comes with EU Plug fitting*

STEM RS900

Reaction Station

The RS900 is a 10 position reaction station designed for 24mm/25mm diameter vessels (also 16mm and other diameter vessels with appropriate adaptor sleeves), and sample sizes from 10ml to 30ml.

The unit has a controlled temperature range from ambient to 150°C, along with a powerful stir speed from 400 to 2000rpm.

Technical Information

Model	RS900
Stirred positions	10
Tube diameter	24 or 25mm
Tube diameter sleeves	16mm, 20mm
Sample volume	10 - 30ml
Stir speed range	400 - 2000rpm
Soft start (to full ramp)	0 - 10mins (Adjustable)
Temperature range (ambient)	Ambient to 150°C
Temp stability	±0.5°C
Time to max/min temp	15mins
Interface port	RS232 & manual
Dimensions (w x d x h), mm	240 x 215 x 140
Shipping weight, kg	5.4

Ordering Information

Part Code	Model	Voltage	No. of Bores	Bore Diameter
PS80067*	RS900	230V	10	24mm
PS80067A*	RS900	230V	10	25mm
PS80068	RS900	115V	10	24mm
PS80068A	RS900	115V	10	25mm

**Comes with EU Plug fitting*

Key Features

- 10 position reaction station
- 24mm/25mm diameter vessels
- Can accommodate 16mm and other diameter vessels with appropriate adaptor sleeves
- Sample sizes from 10ml to 30ml
- Controlled temperature range from ambient to 150°C
- Powerful stir speed from 400 to 2000rpm
- Manual/external control via the RS232 interface port
- Compact footprint for easy integration onto a robotic platform
- Low running costs as only 300W power consumption

RS900

STEM RS1000

Reaction Station

Key Features

- 10 position reaction station
- 24mm/25mm diameter vessels
- Can accommodate 16mm and other diameter vessels with appropriate adaptor sleeves
- Sample sizes from 10ml to 30ml
- Controlled temperature range from ambient to 150°C
- Powerful stir speed from 400 to 2000rpm
- Manual/external control via the RS232/RS485 interface ports
- Compact footprint for easy integration onto a robotic platform
- Low running costs for RS1000 as only 300W power consumption
- High temperature RS1000H option with temperature range from ambient to 300°C
- RS1000H has 600W power consumption as it can operate at higher temperature

RS1000

The RS100 is a 10 position reaction station designed for 24mm/25mm diameter vessels (also 16mm and other diameter vessels with appropriate adaptor sleeves), and sample sizes from 10ml to 30ml, along with a controlled temperature range from ambient to 150°C.

The unit has a powerful stir speed from 400 to 2000rpm, and permits both manual, and external control via the RS232/RS485 interface ports. It has a compact footprint for easy integration onto a robotic platform.

The RS100 is also available as a high temperature RS1000H option with temperature range from ambient to 300°C.

Technical Information

Model	RS1000
High temp model	RS1000H
Stirred positions	10
Tube diameter	24 or 25mm
Tube diameter sleeves	16mm, 20mm
Sample volume	10 - 30ml
Stir speed range	400 - 2000rpm
Soft start (to full ramp)	0 - 10mins (Adjustable)
Temperature range (ambient)	Ambient to 150°C Ambient to 300°C for RS1000H
Temperature stability	±0.5°C
Time to max/min temp	15mins
Interface port	RS232/RS485 & manual
Dimensions (w x h x d), mm	80 x 150 x 305
Shipping weight, kg	4

Ordering Information

Part Code	Model	Voltage	No. of Bores	Bore Diameter
PS80010*	RS1000	230V	10	24mm
PS80010A*	RS1000	230V	10	25mm
PS80033	RS1000	115V	10	24mm
PS80033A	RS1000	115V	10	25mm
PS80071*	RS1000H**	230V	10	24mm
PS80071A*	RS1000H**	230V	10	25mm
PS80073	RS1000H**	115V	10	24mm
PS80073A	RS1000H**	115V	10	25mm

**Add X6 suffix for 230V with EU plug*
***Model numbers with suffix H are high temperature models*

STEM RS2500 and RS2400

Reaction Stations

The RS2500 is a 25 position reaction unit & the RS2400 a 24 position reaction station, designed for 24mm/25mm diameter vessels. They both accommodate 16mm and other diameter vessels with appropriate adaptor sleeves), and sample sizes from 10ml to 30ml. They have a controlled temperature range from ambient to 150°C, along with a powerful stir speed from 400 to 2000rpm.

Both manual and external control are permitted via the RS232/ RS485 interface ports and they have a compact footprint for easy integration onto a robotic platform.

Key Features

- Choice of 25 position (RS2500) or 24 position (RS2400) reaction stations
- 24mm/25mm diameter vessels
- Can accommodate 16mm and other diameter vessels with appropriate adaptor sleeves
- Controlled temperature range from ambient to 150°C
- Powerful stir speed from 400 to 2000rpm
- Manual, and external control via the RS232/ RS485 interface ports
- Compact footprint for easy integration onto a robotic platform

RS2500

Technical Information

Model	RS2500/RS2400
Stirred positions	25/24
Tube diameter	24 or 25mm
Tube diameter sleeves	16mm, 20mm
Sample volume	10 - 30ml
Stir speed range	400 - 2000rpm
Soft start (to full ramp)	0 - 10mins (Adjustable)
Temperature range (ambient)	Ambient to 150°C
Temperature stability	±0.5°C
Time to max/min temp	30 mins
Interface port	RS485/RS232 & manual
Dimensions (w x h x d), mm	250 x 145 x 365
Shipping weight, kg	10

Ordering Information

Part Code	Model	Voltage	No. of Bores	Bore Diameter
PS80054	RS2400	115V	24	24mm
PS80054A	RS2400	115V	24	25mm
PS80057*	RS2400	230V	24	24mm
PS80057A*	RS2400	230V	24	25mm
PS80025*	RS2500	230V	25	24mm
PS80025A*	RS2500	230V	25	25mm
PS80036	RS2500	115V	25	24mm
PS80036A	RS2500	115V	25	25mm

**Comes with EU Plug fitting*

STEM RS5000

Reaction Station

The RS5000 is a 50 position reaction station designed for 24mm/25mm diameter vessels (also 16mm and other diameter vessels with appropriate adaptor sleeves), and sample sizes from 10ml to 30ml. It has a controlled temperature range from ambient to 150°C and a powerful stir speed from 400 to 2000rpm.

Key Features

- 50 position reaction station
- 24mm/25mm diameter vessels
- Can accommodate 16mm and other diameter vessels with appropriate adaptor sleeves
- Sample sizes from 10ml to 30ml
- Controlled temperature range from ambient +5°C to 150°C
- Powerful stir speed from 400 to 2000rpm
- Manual/external control via the RS232/RS485 interface ports
- Compact footprint for easy integration onto a robotic platform

RS5000

Technical Information

Model	RS5000
Stirred positions	50
Tube diameter	24 or 25mm
Tube diameter sleeves	16mm, 20mm
Sample volume	10 - 30ml
Stir speed range	400 - 2000rpm
Soft start (to full ramp)	0 - 10mins (Adjustable)
Temperature range (ambient)	Ambient to 150°C
Temperature stability	±0.5°C
Time to max/min temp	30 mins
Interface port	RS485/RS232 & manual
Dimensions (w x h x d), mm	250 x 145 x 460
Shipping weight, kg	13.8

Ordering Information

Part Code	Model	Voltage	No. of Bores	Bore Diameter
PS80037	RS5000	115V	50	24mm
PS80037A	RS5000	115V	50	25mm
PS80050*	RS5000	230V	50	24mm
PS80050A*	RS5000	230V	50	25mm

** Add X6 suffix for 230V with EU plug fitting*

STEM RS9000

Heater/Shaker Reaction Station

The RS 9000 Heater/Shaker Reaction Station can be used within a robotic workstation or as a stand-alone apparatus in the lab. On a robotic platform, heating and shaking cycles can be controlled by external software or as part of a fully automated system through the RS232/ RS485/ GSIOC ports; for standalone use, there is the additional option of controlling heating and shaking cycles via the user friendly touchscreen.

The CTC panel (Capacitance Touch Control) of the touchscreen enables the temperature and shaking speeds to be changed using up/down arrows and the actual values are clearly displayed on a high definition LCD display which has an anti-glare coating. The LCD display is cool blue to be visible in both bright and dim lighting conditions, without deleteriously affecting light-sensitive chemicals. The touchscreen has a laminated toughened glass panel that is chemically resistant to most acids and solvents.

Temperature probe

The RS9000 operates over a temperature range of ambient 5°C to 150°C. An optional temperature probe can be purchased and plugged into the din socket on the front panel.

X-Y Gyration system

The RS9000 can handle heavy workloads and give 24 hour continuous operation with uniform agitation of between 100-600rpm. For stability, the RS9000 has a solid bronze chassis on which the X–Y gyration system is mounted, which is a robust two axis slide plate mechanism. Tapered roller bearings ensure smooth agitation cycles and give accurate control of agitation speed even at low revolutions. Advanced micro-controllers monitor temperature and agitation speed constantly and make the required adjustments as necessary which has been proven to provide many years of reliable service.

Interchangeable blocks

The RS9000 has a range of different reaction blocks that can be inter-changed to give a choice of both reaction vessel capacities and formats that can be fitted into the same working footprint. If desired, the reaction blocks can also be customised to accept different vessels and tray sizes.

Auto-Park

The RS9000 has a unique "auto-park" feature which ensures the platform always stops in the same X-Y co-ordinate This allows for automated sampling and additions.

Key Features

- Very versatile as reaction blocks can be inter-changed to accommodate different vessels and tray formats
- Can be used on a robotic platform or within a laboratory
- Choice of touchscreen control or external control via RS232/ RS485/ GSIOC ports
- Operates over a temperature range of ambient to 150°C
- Agitation speed of 100-600 rpm
- Optional temperature probe
- 2-axis X-Y gyration system on solid bronze chassis that is both reliable and stable
- Auto-park feature enables use on robotic platforms
- Soft start ramping to minimise splashing
- Very safe to operate
- Provides many years of reliable use with continuous 24 hours heating and agitation

RS9000

Safety Features

The RS9000 has a thermal cut-off that eliminates runaway conditions. The 'Hot block' warning via a highly visible warning display icon alerts you to when the block temperature is above 50°C, even when the apparatus is unplugged from the power supply. The RS9000 can be stopped rapidly in case of emergency by pressing down on the front sliding door; the front display will indicate "Door Open" and immediately stop. Heating and stirring can be reset after stopping by closing the door and pressing the function key zones on the front panel to reactivate.

Soft Start Ramping

Soft Start Ramping allows controlled build-up to the set speed (from 0 to 10 mins). This feature minimises splashing of vessel contents, wetting of flask closures and fragmentation of specimens.

Technical Specification

Electrical requirements	230V, 50-60Hz, 900W
Heating temp. range	Ambient + 5°C to 150°C
Timer range	1 - 99 hours
Agitation speed	100 - 600 rpm
LCD display	Backlit blue double line13 dot matrix
Glass touch panel	3mm clear with 2mm anti-reflective clear with a toughed grey laminate bonded sandwich
Touch key zones	Capacitance sensor touch
Product weight.	42kg (excluding a reaction block being in place)
Max. load weight	7 kg max for each reaction block
Dimensions (w x d x h), mm	240 x 510 x 165

Ordering Information

Part Code	Description
PS83000*	RS9000 Agitator Reaction Station
AZS4141	Heater Cartridge (110V)
AZS4142	Heater Cartridge (230V)
M7876	Motor Brushes. (2 per)
PS80052	Reaction Block for test tubes, 96 x 16mm OD
PS80064	Reaction Block for test tubes, 40 x 24mm OD
PS80074	Reaction Block for 4 x standard Micro-titre plates
PS80047	Reaction Block for 4 x 96 well PTFE Micro-titre plates
PS80065	Reactor for Charybdis (holds two blocks) Calypso System
PS80048	96 well PTFE Micro-titre plate, 9 x 8mm ID
PS80114	Reaction Block for 96 x 1.5ml Micro-titre tubes
PS80049	96 well PTFE Micro-titre plate lid
PS80051	96 well PTFE Micro-titre complete with lid
AZ140940	Temperature probe (external)

*Add x1 suffix for 115V model

Note: Customised reactor blocks also available

Accessories

For RS Series Reaction Stations

Part Code	Accessory	RS Model				
		600	900	1000	2500	5000
AT60067	Stir bar PTFE coated15mm x 4mm		•		•	•
ATS10101	Adaptor sleeve 11mm - 25mm (10 pack)		•			
ATS10210	Adaptor sleeve 12mm - 25mm (10 pack)		•			
ATS10211	Adaptor Sleeve 25mm - 23mm (10 pack)		•			
ATS10212	Adaptor Sleeve 25mm -18/16mm (10 pack)		•			
PS80087	Temperature probe	•	•	•	•	•
PS80155	Adaptor sleeve RS900 25-22mm (10 pack)		•			
AZ6745	Power cable without plug	•	•	•	•	•
AZ6746	115V Power cable with US plug	•	•	•	•	•
AZ6747	230V Power cable with EU plug	•	•	•	•	•
AZS4024	Fuse 8A SLO BLO	•	•			
AZS4010	Motor			•		
AZS4100	PCB Display			•		
AZS4101	PCB Microprocessor			•		
AZS4186	RS1000 front fascia label			•		
AZS4189	RS1000 115V power PCB assy			•		
AZS4310	Adaptor sleeve 25-24 dia (25 pack)				•	•
ATS10031	Stir bar retriever			•		
ATS10019	Inerting cap without valve (6 pack).			•		
ATS10020	Inerting cap assembly – (6 pack)			•		
ATS10025	Temp probe inerting caps (6 pack)			•		
ATS10026	Spare plug for ATS10025 (6 pack)			•		
ATS10028	Large elliptical mag bar (20 pack)			•		
ATS10029	Large octagonal mag bar (20 pack)			•		
ATS10030	Cross shape mag bar Medium (20 pack)			•		
ATS10033	Octagonal stir bar small (40 pack)			•		
ATS10034	Cross stir bar – small (40 pack)			•		
ATS10035	Elliptical stir bar – small (40 pack)			•		
PS80088	Reaction pot	•				
PS80013	PTFE caps sili septa to fit 80112 (100 pack)	•				
PS80134	Adaptor sleeve 57.5 to 35mm (6 pack)	•				
PS80142	Adaptor sleeve 57.5 to 50.5mm (6 pack)	•				
AZS4192	RS600 Motor	•				
AZ4194	RS600 M2 PT100 PCB	•				
AZ4195	RS600 Transformer	•				
ATS10056	Adaptor sleeve 24mm to 16mm (10 pack)		•	•		
ATS10201	Adaptor sleeve H/Pres RS600 (6 pack)	•				
ATS10240	Adaptor sleeve 56-28 (6 pack)	•				
ATS10242	Adaptor sleeve 44.0 to 26 dia. (1 off)	•				
ATS10381	Adaptor sleeve 56 - 24 (6 pack)	•				
PS80011	Adaptor sleeve 24mm to 20mm tubes (10 pack)		•	•		
PS80011A	Adaptor sleeve 25mm to 20mm (10 pack)		•	•		
PS80012	Adaptor sleeve 24mm to 16mm (10 pack)		•	•		
PS80012A	Adaptor sleeve 25mm to 16mm tubes (10 pack)		•	•		
PS80013	Adaptor sleeve 24mm to 20mm tubes (10 pack)		•	•		
PS80013A	Adaptor sleeve 25mm to 20mm tubes (25 pack)				•	
PS80014	Adaptor sleeve 24mm to 16mm tubes (25 pack)				•	

**Note: For 115V, add X1 suffix For 230V with EU plug, add X6 suffix*

Part Code	Accessory	RS Model				
		600	900	1000	2500	5000
PS80014A	Adaptor sleeve 25 to 16mm (25 pack)				•	
PS80015A	Adaptor sleeve 25 to 18mm (10 pack)		•	•		
PS80016	Adaptor sleeve 24 to 20mm tubes		•	•	•	•
PS80016A	Adaptor sleeve 25 to 20mm tubes		•	•	•	•
PS80017	Adaptor sleeve 24 to 16mm tubes		•	•	•	•
PS80017A	Adaptor sleeve 25 to 16mm TU tubes BES		•	•	•	•
PS80018	Adaptor sleeve Liquid reflux 24-25mm tubes		•	•	•	•
PS80041	Adaptor sleeve 56mm to 47mm bottles (6 pack)	•				
PS80081	Adaptor sleeve 25mm to 24mm tubes (10 pack)		•	•		
PS80156	Adaptor sleeve 25mm to 17mm (50 pack)					•
PS80126	Adaptor sleeve 25mm to 20mm reflux unit (50 pack)					•
PS80131	Adaptor sleeve 57.5mm to 25mm (6 pack)	•				
PS80133	Adaptor sleeve 57.5mm to 45mm (6 pack)	•				
PS80134	Adaptor sleeve 57.5mm to 35mm (6 pack)	•				
PS80142	Adaptor sleeve 57.5mm to 50.5mm (6 pack)	•				
ATS10353	Reflux unit (liquid cooled) 6 x 50.5mm tubes	•				
PS80024	Reflux unit (liquid cooled) 10 x 24mm tubes		•	•		
PS80024A	Reflux unit (liquid cooled) 10 x 25mm tubes		•	•		
PS80026	Reflux unit (liquid cooled) 25 x 24mm tubes				•	
PS80026A	Reflux unit (liquid cooled) 25 x 25mm tubes				•	
PS80027	Reflux unit (liquid cooled) 50 x 24mm tubes					•
PS80027A	Reflux unit (liquid cooled) 50 x 25mm tubes					•

**Note: For 115V, add X1 suffix For 230V with EU plug, add X6 suffix*

Easy, accurate and ergonomic

The all-new IA 9000 series Melting Point Apparatus

The all-new IA9000 series Digital Melting Point Apparatus offers a quick way to measure the melting points of samples without sacrificing accuracy, with a temperature resolution of ±0.1°C.

It is ideal for a busy laboratory, being ergonomically designed to ensure comfortable viewing for everyone, with a height-adjustable extension arm and an 8x magnification viewing head that rotates to suit each user. The extension arm is collapsible and can be neatly folded away into the unit, so that the unit can be stored flat to save space.

Key features are:

- 3 samples may be run simultaneously
- Membrane keypad with simple menus for intuitive use
- Selectable ramp rates between 0.2°C/min and 10°C/min
- Improved calibration procedure using a calibration key
- Results are recordable and held in batch memory
- PC output facility with optional printer

Electrothermal
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Please scan the QR/Mobile Tag with your smartphone for more information

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Electrothermal

STEM Omni Reaction Stations

Equipment for Parallel Synthesis

The STEM Omni Reaction Stations enable you to conduct parallel synthesis for either 6 or 10 reaction positions simultaneously, maintaining the same controlled temperature and stirring rate at each position.

The STEM Omni Reaction Stations give you a choice of:

- 6 or 10 positions
- Working sample volumes of between 2 to 250ml
- Operating temperature range of ambient to 220°C
- Temperature range may be extended down to -30°C with a cooling plug and chiller accessory
- Stirring rate of between 100 - 2000rpm
- Wide range of accessories

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

Omni 1000 and 6000 Series

STEM Omni Reaction Stations

The STEM Omni Reaction Stations enable you to conduct parallel synthesis for either 6 or 10 reactions simultaneously. They offer a modular design which enables you to build up your own parallel synthesis system in 5 steps, by ordering your choice of:

Step	Part Description
1	Omni Controller (same for all Omni range)
2	Omni heater cartridge
3	Omni cooling plug
4	Omni reaction vessels
5	Omni reflux head

The Omni Controller base unit remains the same for all Omni models, and one base unit can accommodate sample volumes from 2ml to 250ml. All heating blocks, glassware and reflux heads are interchangeable. The Omni Reaction Station footprint is compact and can be placed into any fume hood, or within a small bench space.

You have a choice of either 10 or 6 positions within your Omni Reaction Station. 10 position units allow up to 10 reactions with working volumes of:

Working volume	Omni Model
2 - 25ml	OS1025

6 place units allow up to 6 reactions with working volumes of:

Working volume	Omni Model
5 - 50ml	OS6050
50 - 100ml	OS6100
100 - 250ml	OS6250

Part Code	Description
OS1025*	Series 1025 kit for 10 position Omni Reaction Station (working vol. 2 - 25ml)
OS6050*	Series 6050 kit for 6 position Omni Reaction Station (working vol. 5 - 50ml)
OS6100*	Series 6100 kit for 6 position Omni Reaction Station (working vol. 50 - 100ml)
OS6250*	Series 6250 kit for 6 position Omni Reaction Station (working vol. 100 - 250ml)
OSCA*	Omni station controller
ATS10112*	Cooling plug for OS6050, OS6100 and OS6250
ATS10114*	Cooling plug for OS1025

**Add X1 suffix for 115V and X6 for 230V with EU plug*

Key Features

With the exception of different working volumes, all of the models within the Omni 1000 and 6000 series STEM Omni Reaction Stations offer the same outstanding performance features:

- Interchangeable, modular design
- Stirring stability and speeds of 100 - 2000 rpm
- Simple menus and touch pad interface to control the system performance
- All heater cartridges are equipped with “in block heaters” that allow temperatures up to 220°C
- High level of stability (± 1.5°C) across the heater cartridge itself
- An external temperature probe to increase temperature accuracy to ±0.5°C
- A “cool to touch” outer casing
- Selected cartridges can also be used in conjunction with a cooling plug to extend the operating temperature range from - 30°C to 220°C

OS1025

Technical Specification

Cat no	OS1025	
Model	**Series 1025**	
Voltage	230 & 115 V*	
Number of positions	10	
Well diameter, mm	24.5/ 25.5mm	
Working volume, ml	2- 25 ml	
Temperature range	Ambient to 220°C	
Temperature range using cooling plug and chiller	-30°C to 220°C	
Stir speed range rpm	100 - 2000 rpm	
Electrical requirements	All 230V models: 50/60Hz, 500W	All 115V models: 50/60Hz, 500W
Dimensions (w x d x h), mm	235 x 330 x 300	
Shipping Weight (kit), kg	10kg for all models, (with glassware)	
Shipping Weight (unit), kg	4.1kg for all models, (without glassware)	

Cat no	OS6050	OS6100	OS6250
Model	**Series 6050**	**Series 6100**	**Series 6250**
Voltage	230 & 115 V*	230 & 115 V*	230 & 115 V*
Number of positions	6	6	6
Well diameter, mm	40.5mm	56.5 mm	56.5 mm
Working volume, ml	5- 50ml	50- 100ml	100- 250ml
Temperature range	Ambient to 220°C	Ambient to 220°C	Ambient to 220°C
Temperature range using cooling plug and chiller	-30°C to 220°C	-30°C to 220°C	-30°C to 220°C
Stir speed range rpm	100 - 2000 rpm	100 - 2000 rpm	100 - 2000 rpm
Electrical requirements	All 230V models: 50/60Hz, 600W		All 115V models: 50/60Hz, 600W
Dimensions (w x d x h), mm	235 x 330 x 450	235 x 330 x 450	235 x 330 x 550
Shipping Weight (kit), kg	10kg for all models, (with glassware)		
Shipping Weight (unit), kg	4.1kg for all models, (without glassware)		

Add X1 suffix for 115V and X6 suffix for 230V model with EU plug

Included in the Omni Reaction Station Kit

Part Code	OS1025 kit	OS6050 kit	OS6100 kit	OS6250 kit
Omni controller, 230V	•	•	•	•
Omni heater cartridge	10 x 25mm bores	6 x 56mm bores	6 x 56mm bores	6 x 56mm bores
Reducing sleeves* Not included for 115V models		•	•	•
Omni reaction vessels (glassware) Not included for 115V models	10 x 25ml	6 x 50ml	6 x 100ml	6 x 250ml
Inerting caps Not included for 115V models	•	•	•	•
Stirrer bars	•	•	•	•
Omni reflux head	•	•	•	•

Notes: *Reducing sleeves may be ordered separately for OS1025
Omni cooling plug is not contained within the kits, but may be ordered separately

Components of Omni 1000 and 6000 Series

STEM Omni Reaction Stations

Omni Temperature Sensor

1

For fast and more precise temperature control, the temperature probe can be inserted either into a machined pocket in the reaction block or via a thermocouple pocket directly in one of the reaction vessels. The temperature sensor attaches directly into the Omni Controller

Omni Gas-tight PTFE caps

2

By using a simple bi-directional open/close lever, each reaction vessel can be controlled separately. Each vessel cap has a septum to allow sampling at each vessel position.

Omni Reflux Head

3

Efficient condensing and refluxing, for samples up to 25ml, is provided through the use of a liquid-cooled aluminium reflux head. Cooing is introduced through the inlet/outlet ports. Individual reaction positions are numbered (1-10) for simplified tube and sample identification. A central gas inlet/outlet port, combined with the gas-tight PTFE caps allows for a vacuum to be pulled and/or inert gas (nitrogen) to be ported into each individual tube.

Omni Reaction Vessels

4

24mm and 25mm x 150mm threaded glass reaction vessels which can handle volumes from 2 – 250ml. Solutions can be added and removed through the top of the reaction vessel.

Omni Cooling Plug

5

Allows the reaction unit to cool down to -30°C, greatly expanding the types of chemistry you can perform with this equipment. The cooling plug is simple to use: Insert the cooling plug into the reaction unit and attach cooling lines to the inlet/outlet via quick disconnects. Melting ice is no longer a problem with the cooling plug.

Omni Heater Cartridge

6

Encased reaction unit ensures accurate temperature uniformity across the unit. Unique patented air flow through ventilation slots beneath and around the rim of the case ensures a cool case temperature, allowing it to be safe to touch.

Omni Controller

7

Used to control both temperature and stirring speed, the Omni Controller is easy to operate. Temperature and speed can be separately enabled to provide complete control of reactions. Both temperature and speed are individually adjustable by depressing the up/down keys on the interface. The control panel (on the controller) has 3 indicator lights: “Power On”, “Heater On” and “Stirrer On”, so that you can closely view the performance of your system. A 2 x 16 digit display indicates the actual temperature from -30C to 220°C. Stirring speed is reflected by simply touching the stirrer speed knob.

OS6100

Ordering Information

Part Code	Accessory	Model		
		O6050	OS6100	OS6250
	Round Bottom Flask Capacity	50ml	100ml	250ml
OSCA*	Omni-Station Controller, 230V	•	•	•
ATS10096	Reducing column R45 22SVL (6 pack)	•	•	•
ATS10111	Dean & Stark R45 reducer column (2 pack)	•	•	•
ATS10116	Reflux/Inerting head. 6 x 56		•	•
ATS10108	50ml Round Bottom flask, 40mm OD,R45, (6 pack)	•		
ATS10092	100ml Round Bottom flask R45 (6 pack)		•	
ATS10094	250ml Round Bottom flask (6 pack)			•
ATS10110	Reducer sleeves 56-40mm (6 pack)	•		
ATS10141	Inerting cap 22mm, (6 pack)	•	•	•
ATS10143	Inerting Caps, 22SVL Twin septum (6 pack)	•	•	•
ATS10097	Stir bar 15 x 10 Elip, Rare Earth	•	•	•
ATS10186	Stir bars 25 x 14 ELI, Rare Earth (6 pack)	•	•	•
OSD656	Block cartridge 6 x 56, 230V	•	•	•
ATS10095	Condenser Rotavis (1 off)	•	•	•
ATS10112	Cooling plug OM 6 x 56mm	•	•	•
ATS10145	50ml Round Bottom flask, 40OD, Baf, R45, (2 pack)	•		
ATS10148	50ml Round Bottom flask, 40OD, Crys, R45, (2 pack)	•		
ATS10146	100ml Round Bottom flask, 56OD, Baf, R45, (2 pack)		•	
ATS10149	100ml Round Bottom flask, 56OD, Cry, R45, (2 pack)		•	
ATS10147	250ml Round Bottom flask, 56OD, Baf, R45, (2 pack)			•
ATS10150	250ml Round Bottom flask, 56OD, Cry, R45, (2 pack)			•
ATS10157	Rotary evaporator, Plain, A24 Rodaviss 45, (2 pack)	•	•	•
ATS10158	Rotary evaporator, HiBoil, A24 Rodaviss 45, (2 pack)	•	•	•
ATS10159	Rotary evaporator, Filterd, A24 Rodaviss 45, (2 pack)	•	•	•
ATS10160	Plain B34 to Rotavis 45 rotary evaporator (2 pack)	•	•	•
ATS10161	Plain B29 to Rotavis 45 rotary evaporator (2 pack)	•	•	•
ATS10162	Rotary evaporator B34 hiboil Rod45 (2 pack)	•	•	•
ATS10163	Rotary evaporator B29 HiBoil Rod45 (2 pack)	•	•	•
ATS10164	Rotary evaporator Filtered Plain B34 to Rodaviss 45 (2 pack)	•	•	•
ATS10165	Rotary evaporator Filtered Plain B29 to Rodiviss 45 (2 pack)	•	•	•
ATS10169	Nitrogen bubbler (2 pack)	•	•	•
ATS10170	Dropping funnel, cranked, 50ml	•		

*Add X1 suffix for 115V model and X6 for 230V with EU plug

Accessories for the OS1025

STEM Omni Reaction Station

Ordering Information

Part Code	Accessory	Model
		OS1025
	Round Bottom Flask Capacity	50ml
OSCA*	Omni Station Controller 230V	•
ATS10075	Test tubes 24x150mm 22 thread (10 pack)	•
ATS10377	Inerting cap and probe hole (10 pack)	•
AZS4206	Stir bars 10 x 6 oval R/E (10 pack)	•
OSD1025	Block cartridge, 10 x 25, 230V	•
ATS10115	Reflux/inert head, 10 x 25mm	•
ATS10031	Stir bar retriever	•
ATS10063	Temperature probe, 5 pin, PT100	•
ATS10075	Test tubes, 24 x 150mm, 22 thread (10 pack)	•
ATS10076	Test tubes, 24 x 150mm, 22 thread pocket (10 pack)	•
ATS10077	Dean & Stark, 24 x 150mm, 22 thread (10 pack)	•
ATS10079	Phase separation head, 22svl (2 pack)	•
ATS10080	Mini condenser, 22svl (2 pack)	•
ATS10081	Filtration adaptor/tap, 9.5 dia (2 pack)	•
ATS10082	Rotary Evaporator Adaptor, Plain A24-22mm,(2 pack)	•
ATS10083	Rotary Evaporator, HiBoil, A24-22mm (2 pack)	•
ATS10084	Rotary Evaporator, Plain, B34-22,(2 pack)	•
ATS10085	Rotary Evaporator Adaptor, HiBoil B34-22 (2 pack)	•
ATS10086	Rotary Evaporator Adaptor, Filtr B34-22 (2 pack)	•
ATS10087	Rotary Evaporator Adaptor Plain B29-22 (2 pack)	•
ATS10088	Rotary Evaporator Adaptor, HiBoil B29-22, (2 pack)	•
ATS10089	Rotary Evaporator Adaptor, Filter B29-22, (2 pack)	•
ATS10090	Rotary Evaporator Adaptor, Filter, A24-22mm, (2 pack)	•
ATS10114	Cooling Plug	•
ATS10118	Cap Pressure Reaction 24/25OD	•
ATS10119	Pressurised Vessel 24mm (1 pack)	•
ATS10134	RV small 24mm crystal (10 pack)	•
ATS10135	RV large 24mm crystal (10 pack)	•
ATS10137	Stir-Bar, D-Cross,13x17D, Rare Earth, 20P	•
ATS10144	Inerting Caps, 22svl, Twin septum (10 pack)	•

*Add X1 suffix for 115V model and X6 for 230V with EU plug

Electrothermal

STEM Integrity Reaction Stations

Equipment for parallel synthesis

The STEM Integrity 10 Reaction Station enables you to conduct 10 different reactions simultaneously within the same reaction unit, each reaction being conducted within its own cell, at its own individual temperature and stir rate. The newly launched STEM Integrity 6 Reaction Station enjoys shares the same performance characteristics of Integrity 10, but has 6 positions instead of 10. Its larger cell working volumes make Integrity 6 particularly suited for chemistry labs.

Find out more! Please scan the QR/Mobile Tag with your smartphone for more information

STEM Integrity 10

Reaction Station

The STEM Integrity 10 Reaction Station can control 10 different reaction processes simultaneously and monitor each of the Integrity 10 reaction cells independently.

The temperature is controllable from -30 to 150°C with a very high degree of accuracy and maintained by either the block itself or by using a probe in the solution.

With a temperature stability of ± 0.2°C and a minimal set point overshoot of 0.1°C, extreme accuracy is guaranteed.

Each cell has an individually controlled magnetic stirrer and can accommodate sample volumes of between 2 and 25ml. Intrusive or non-intrusive IR turbidity probes are available to determine solubility/crystallisation measurements via turbidity.

Technical Specification

Number of positions	10
Cell cavity diameter	25.5 mm
Glass vessel fill level	2 - 25 ml
Temperature range	- 30 to + 150°C
Temperature difference between any two positions	180°C
Temperature overshoot (max)	0.1°C
Max. controlled heating/cooling rate	5°C/min
Controlled heating/cooling ramp rate	0.1°C/min to 5°C/min in 0.1°C/min steps
Stir speed range	350 - 1200rpm/min
Viscosity capacity	glycerine at 25°C
Recommended stir bars	12/ 4.5 mm (cylindrical) or 10/ 6 mm (oval)

Measured external temp. (optional thermometer) range

Temperature range		-40 to + 160°C
Temperature resolution		±0.01°C
Temperature accuracy		±0.5°C
Stirrer speed range		350 - 1200/min
Stirrer resolution		1rpm/min
Stirrer accuracy		±1rpm/min
Electrical requirements		230V, 50/60Hz, 1100W
Dimensions	(unit) (w x d x h), mm	153 x 430 x 160
	(power supply), mm	153 x 415 x 160
Weight	(unit), kg	9.5
	(power supply), kg	10.5

Key Features

- 10 individual cells in one reaction station
- Individual control of temperature and stirring rate for each cell
- Temperature range of -30°C to 150°C
- Stirring rate of 350rpm - 1200rpm
- Cell working volume of 2ml - 25ml
- Optional attachments for refluxing, and working under vacuum or inert gas conditions
- Optional multi-temp temperature probes for temperature control by contents
- Optional multi-infrared probes for solubility/crystallisation studies
- Automatic microprocessor control through a touchscreen
- Warranty: 3 years parts and labour

Integrity10

Part Code: PS20000

Notes:

- Minimum temperature is linearly dependent upon the temperature of the cooling fluid. Specified range assumes a cooling fluid temperature supply of 5°C at a flow rate of ≥ 2.5L/min and a cooling capacity of 1100W
- Stir performance only guaranteed using recommended stir bars
- RS232 & RS485 ports, RJ45 ethernet socket & GSI0C protocol socket for connecting and controlling Integrity 10 as part of an integrated system
- SD card acts as Integrity 10 hard drive; optional USB port for data storage

Part Code	Description
PS20000*	Integrity 10 with 10 individually controlled cells with PSU
ATS20001	Integrity 10 Reflux unit with inerting caps
ATS10075	Glass tubes 24/150 mm, 22 thread (10 Pack)
AZS4206	Stirrer bars 10/ 6 mm (10 Pack)
ATS10001	Multi-Temp 10 module
ATS10027	Thermocouple probe (6 Pack)
ATS10027/10	Thermocouple probe (10 Pack)
ATS10232E	Multi IR box
ATS10360/1	Non Intrusive IR sensor
ATS10360/5	Non Intrusive IR sensor (5 Pack)
ATS10360/10	Non Intrusive IR sensor (10 Pack)
ATS11005	Integrity software
ATS10230	Intrusive IR probe stainless steel DIP-NIR5-BNSD (Pack of 1)
ATS10231	IR Probe DIP-NIR5-BNSD (10 Pack)
ATS10230H	Intrusive IR probe in Hastelloy (nickel-based alloy withhigh corrosion resisitance)
ATS10395	Intrusive IR/NIR sensor 661.6004 - NIR, 10mm in Hastelloy (Pack of 1)

**Note: For 115V, add X1 suffix, for 230V with EU plug, add X6 suffix*

Intrusive IR Probes for Integrity 6 and 10

Part Code	ATS10395	ATS10230 (stainless steel- pack 1) ATS10231(stainless steel- pack 10) ATS10230H (Hastelloy- pack 1)
Description	Intrusive IR/NIR probe 661.6004-NIR, 10mm	Intrusive IR probe DIP-NIR5-BNSD
Key features	Ultra-mini Immersion probe Large window at probe tip Ideal for large crystals and highly viscous solutions	World's smallest fibre optic dipping probe Ideal for multi-channel applications
Optical light path	10 mm ± 0.02 mm	5mm
Materials in contact with sample	Sapphire Kalrez 6375 (perfluoroelastomer) Hastelloy C-22, PEEK (polyether ether ketone)	Choice of stainless steel or Hastelloy (nickel-based alloy with high corrosion resistance)
Probe housing	Designed to fit Integrity 10	Designed to fit Integrity 10
Dimensions:		
Outer tip diameter	6 mm	1.5 mm (17-gauge needle size)
Min. immersion depth	20 mm	7mm (tip to upper edge of sample window)
Total length	215 mm	180mm (including handle)
Max. temperature at the probe shaft	150°C	
Pressure range sample	1 bar up to 6 bar	
Fibre optic fibres	Quartz built-in cables with low OH content (NIR)	Quartz built-in cables
Core diameter optic fibres	600 µm	2 x 400 µm
Total length	2 x 1.4 m	1.5m (from connector to tip)
Cable connectors	FSMA type 905	SMA
Chemical resistance	Very good chemical resistance	Can be used in almost any organic and inorganic solvents except HF and strong acids. HF will dissolve the quartz fibre and strong acids will corrode the stainless steel
Recommended cleaning solutions		Distilled water, detergent, alcohol, acetone

STEM Integrity 6

Reaction Station

The STEM Integrity 6 Reaction Station enables you to conduct 6 different reactions simultaneously within the same reaction unit, each reaction being conducted within its own cell, at its own individual temperature and stir rate. If desired, fast heating and cooling rates can be selected, with temperature ramps of between 0.1°C/min to 5°C/min. There is also a crash function for even faster temperature changes, which is ideal for kinetic determinations.

Extreme temperature accuracy is guaranteed, with a temperature stability of ± 0.2°C and a maximum set point overshoot of 0.1°C. The temperature may be maintained either through the block itself or by using a probe within each cell's solution.

This accuracy can be maintained over a wide temperature range of -30°C to 150°C, with precise, independently controlled temperature profiles, and homogeneous sample mixing may be assured with stirring rates of between 0rpm to 1300rpm using magnetic stirrers.

With working volumes of between 10ml to 50ml, the STEM Integrity 6 is an excellent screening tool for most laboratories and can also be used to establish ideal process conditions.

Technical Specification

Number of positions	6
Cell cavity diameter	40.5 mm
Cell working volume	10 – 50ml
Glass vessel fill level	2 - 25 ml
Temperature range	-30 to + 150°C
Temperature difference between any two positions	180°C
Temperature overshoot (max)	0.1°C
Max. controlled heating/cooling rate	5°C/min
Controlled heating/cooling ramp rate	0.1°C/min to 5°C/min in 0.1°C/min steps
Stir speed range	0 - 1300rpm/min
Viscosity capacity	glycerine at 25°C
Recommended stir bars	12/ 4.5 mm (cylindrical) or 10/ 6 mm (oval)

Measured external temperature (optional thermometer) range

Temperature range		-40 to + 160°C
Temperature resolution		±0.01°C
Temperature accuracy		±0.5°C
Stirrer speed range		350 - 1200/min
Stirrer resolution		1rpm/min
Stirrer accuracy		±10rpm/min
Electrical requirements		230V, 50/60Hz, 900W
Dimensions	(unit) (w x d x h), mm	153 x 430 x 160
	(power supply), mm	153 x 415 x 160
Weight	(unit), kg	9.5
	(power supply), kg	10.5

Key Features

- 6 individual cells in one reaction block
- Individual control of temperature and stirring rate for each cell
- Temperature range of -30°C to 150°C
- Stirring rate of 0 rpm- 1300 rpm
- Cell working volume of 10ml- 50ml
- Optional attachments for refluxing, and working under vacuum or inert gas conditions
- Optional multi-infrared probes for solubility/ crystallisation studies
- Automatic microprocessor control through a touchscreen
- Warranty: 3 years parts and labour

STEM Integrity 6
Reaction Station