

Реакционные станции многофункциональные Integrity 10, RS-250, RS-200, комплекты нагревательные SHM-250

Технические характеристики

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RS-250 Series Reaction Station

- 10 position reaction station
- Designed for 24 mm/25 mm diameter vessels
- Can accommodate 16 mm and other diameter vessels with appropriate adapter sleeves
- Sample sizes from 1 ml to 25 mL
- Controlled temperature range from ambient +5 °C to 150 °C
- Powerful stir speed from 400 to 2000 rpm
- Manual and external control via the RS-232/RS-485 interface ports
- Low running costs as only 300 W power consumption
- 3-year warranty





RS-250 Series Reaction Station

The RS-250 reaction station has 10 positions that can be programmed to run at the same temperature and stirring rate simultaneously. It can be used for a wide range of applications from simple synthesis in the laboratory to process optimization. Compact footprint offers easy integration onto a robotic platform.

The well-insulated station stays cool to the touch for safe handling. PTFE coating on vessel block provides protection from chemical spills.

Specifications

Model no.	RS-250
Number of positions	10
Well diameter	24 or 25 mm
Working volume per well	1 to 25 ml
Temperature range	Ambient +5 °C to 150 °C (302 °F)
Temperature stability	±1.0 °C
Time to max temperature	15 min
Stirring speed	400 to 2000 rpm
Display	Backlit LED
Communications	RS-232, RS-485
Dimensions (W x H x D)	8.0 x 15.0 x 30.5 cm (3.1 x 5.9 x 12 in)
Warranty	3 years

Ordering Information

Description	Item no.	Series no.	Model no.	Legacy SKU
Reaction station, 230 VAC, 50/60 Hz, 300 W	36630-11	RS-250	RS-250D-25	PS80010

Accessories

Description	Item no.	Legacy SKU
Small-volume test tubes, 24 to 16 mm taper, 3 mL. 10/pk	36630-83	ATS10055
Reducing sleeves for 36630-83. 10/pk	36630-84	ATS10056
Small-volume test tubes, 24 to 11 mm taper, 1 mL. 10/pk	36630-87	ATS10209
Reducing sleeves for 36630-87. 10/pk	36630-86	ATS10101
Stir bars, 10 x 6 mm, oval. 10/pk	36630-98	AZS4206
Stir bars, 10 x 6 mm, oval. 10/pk	36630-99	AZS4235
Reflux/inerting test tubes, SVL22 threaded, 24 x 150 mm. 10/pk	36630-85	ATS10075
Inerting caps with probe hole. 10/pk	36630-74	ATS10377

RS-200 Series Reaction Station

- Greater stirring stability and stir speeds of 100 to 800 rpm
- Simple menus and touchpad interface to control the system performance
- Heater cartridge is equipped with "in block heaters" that allows 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
- Outer housing remains "cool to the touch" for extra safety
- Use optional cooling plug to extend the temperature range down to -30 °C (-22 °F)
- 3-year warranty



Specifications

Model no.	RS-200
Number of positions	10
Well diameter	24.5 or 25.5 mm
Working volume per well	1 to 25 mL
Controlled block temperature range	Ambient to 220 °C
Temperature range using cooling plug and chiller	–30 to 220 °C
Temperature accuracy	±0.5 °C with external temperature probe
Temperature stability	±1.5 °C
Stirring speed	100 to 800 rpm
Display	LCD
Timer	0 to 99 hours, 59 minutes
Communications	RS-232
Dimensions (W x H x D)	23.5 x 30.0 x 33.0 cm (9.3 x 11.8 x 13 in)
Warranty	3 years

Ordering Information

Description	Item no.	Series no.	Model no.	Legacy SKU
Reaction station kit, 230 VAC, 50/60 Hz, 500 W	36630-01	RS-200	RS-200D	OS1025
Reaction station kit, 115 VAC, 50/60 Hz, 500 W	36630-02	RS-200	RS-200D-115	OS1025X1

RS-200 Series Reaction Station

The RS-200 reaction station enables you to run up to 10 reactions simultaneously at the same controlled temperature and stirring rate, and with a working volume of 1 to 25 mL. The modular design of the RS-200 reaction station means that the same base unit can accommodate a variety of heating cartridges for sample volumes from 1 to 1000 mL. This base unit can accommodate the Digi-Mantle heating cartridges making a space saving, cost effective option for all labs. All heating blocks, glassware and reflux heads are also interchangeable. In addition, its compact footprint means that it can be placed into any fume hood or onto a small bench space.

Unit includes digital base controller with stirrer, heating dry block cartridge, reflux/inerting head (36630-72), 10 glass vessels (36630-85), 10 inerting caps (36630-74), 10 stir bars (36630-98), external temperature probe (36630-70), and one pack of cut tubing.

Accessories

Description	Item no.	Legacy SKU
Cooling plug for model RS-200	36630-71	ATS10114
Small-volume test tubes, 24 to 16 mm taper, 3 mL. 10/pk	36630-83	ATS10055
Reducing sleeves for 36630-83. 10/pk	36630-84	ATS10056
Small-volume test tubes, 24 to 11 mm taper, 1 mL. 10/pk	36630-87	ATS10209
Reducing sleeves for 36630-87. 10/pk	36630-86	ATS10101
Stir bars, 10 x 6 mm, oval. 10/pk	36630-98	AZS4206
Stir bars, 12 x 4.5 mm. 10/pk	36630-99	AZS4235
Reflux/inert head, 10 positions	36630-72	ATS10115
Reflux/inerting test tubes, SVL22 threaded, 24 x 150 mm. 10/pk	36630-85	ATS10075
Inerting caps with probe hole. 10/pk	36630-74	ATS10377
External temperature probe, PT100 RTD, 5 pin	36630-70	ATS10063
Dropping funnel, 50 mL	36630-60	ATS10170

Integrity 10 Reaction Station

- 10 individual cells in one unit
- Individual control of temperature and stirring rate for each cell
- Temperature range of -30 to $150\text{ }^{\circ}\text{C}$
- Stirring rate of 350 to 1200 rpm
- Cell working volume of 1 to 25 mL
- Optional attachments for refluxing and working under vacuum
- Automatic microprocessor control through a touchscreen
- 3-year warranty



Integrity 10 Reaction Station

Integrity 10 reaction station's evolutionary design provides the advanced laboratory with a means for allowing the users to perform multiple reactions at individually set temperatures both in negative and positive temperature ranges simultaneously. Each cell position can be heated/cooled and stirred independently of the cell next to or close up to it. The versatility of the product means it can be used inside a fume hood, mounted onto a robotic platform, coupled together as multiple units for mass sampling, or simply operated free standing on a laboratory work surface.

Extreme temperature accuracy is guaranteed, with a temperature stability of $\pm 0.5\text{ }^{\circ}\text{C}$ and a minimal set point overshoot of $0.5\text{ }^{\circ}\text{C}$. 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 to $150\text{ }^{\circ}\text{C}$, with precise, independently controlled temperature profiles. Homogeneous sample mixing may be assured with stirring rates from 350 to 1200 rpm using magnetic stirrers. If desired, fast heating and cooling rates can be selected, with temperature ramps between $0.1\text{ }^{\circ}\text{C}/\text{min}$ to $5\text{ }^{\circ}\text{C}/\text{min}$. There is also a crash function for even faster temperature changes, which is ideal for kinetic determinations. With working volumes between 1 to 25 mL, the Integrity 10 is an excellent screening tool for most laboratories and can also be used to establish ideal process conditions.

Easily set up test parameters using the user-friendly touchscreen menu. Intuitive icons reduce potential for costly errors while preprogrammed profiles for routine measurements save you time. Store results with information such as reaction composition, experiment owner, concentration, and the name of the profile with data stamp. View the progress of the reaction within each cell on the large monitor. It can also display at-a-glance results graphically. Extensive storage capacity lets you capture and review data. Download data to a PC via a USB port or SD card. Order software 36630-92 for more in-depth analysis and evaluation.

Optional reflux/inerting head 36630-97 is ideal when you need to run parallel reactions for a long time, as is commonly required in organic chemistry experiments. Use with inerting caps to provide inert atmosphere to all ten cells. The integrated design eliminates the need to connect individual gas lines to each cell for a safer and effective solution.



Specifications

Model no.	Integrity 10
Number of cell positions	10
Cell cavity diameter	25.5 mm
Glass vessel fill level	1 to 25 mL
Temperature range	–30 to 150 °C*
Temperature resolution	0.01 °C
Temperature accuracy	±0.5 °C
Temperature difference between 2 positions	180 °C
Temperature overshoot (maximum)	0.1 °C
Maximum heating/cooling rate	5 °C/min
Temperature ramp rate	0.1 to 5 °C/min in 0.1 °C/min steps
Stirrer speed range	350 to 1200 rpm
Stirrer resolution	1 rpm
Stirrer accuracy	±10 rpm
Maximum viscosity capacity	Glycerine at 25 °C
Control ports	USB, RS-232, RS-485, GSIOC
Dimensions (W x H x D)	15.3 x 16.0 x 43.0 cm (6 x 6.3 x 16.9 in)
Power	110/230 VAC, 50/60 Hz, 1500 W
Warranty	3 years

*Chilled water supply is required to run the Integrity 10 station; we recommend using a recirculating chiller.

Ordering Information

Description	Item no.	Legacy SKU
Integrity 10 reaction station with power supply unit, cords (UK, US, EU), coolant supply hose, and SD card	36630-00	PS20001

Accessories

Description	Item no.	Legacy SKU
Integrity 10 software	36630-92	ATS11005
Reflux/inerting head	36630-97	ATS20100
Inerting cap for reflux/inerting head, SVL 22 thread. 10/pk	36630-94	ATS20002
Glass tubes, 24 x 150 mm, SVL 22 thread. 10/pk	36630-85	ATS10075
Inerting cap for reflux/inerting head, Kimble type. 10/pk	36630-95	ATS20003
Glass tubes, 24 x 150 mm, Kimble type. 10/pk	36630-96	ATS20004
Multi-temp 10 plug-in box	36630-80	ATS10001
Temperature probe. 6/pk	36630-81	ATS10027
Temperature probe. 10/pk	36630-82	ATS10027/10
Multi-IR plug-in box	36630-89	ATS10232E
Non-intrusive IR sensor	36630-90	ATS10360/1
Small intrusive IR probe in stainless steel PID-NIR5-BNSD	36630-88	ATS10230
Large intrusive IR/NIR probe	36630-91	ATS10394/1
Stirrer bars, 10 x 6 mm oval, for round-bottom tubes. 10/pk	36630-98	AZS4206
Stirrer bars, 12 x 4.5 mm, for flat-bottom tubes. 10/pk	36630-99	AZS4235
Small-volume test tubes, 1 mL, 24 to 11 mm taper. 10/pk	36630-87	ATS10209
Reducing sleeves for 1 mL test tubes. 10/pk	36630-86	ATS10101
Small-volume test tubes, 3 mL, 24 to 16 mm taper. 10/pk	36630-83	ATS10055
Reducing sleeves for 3 mL test tubes. 10/pk	36630-84	ATS10056

Cole-Parmer® Digi Mantles - SHM-250

- Same SHM-250 controller accommodates different capacity heating cartridges, i.e. interchangeable design
- Round bottom flask capacity of between 100mL to 1000mL
- Vented casing ensures the outer is safe to touch
- Greater stirring stability and speeds from 100 to 2000rpm
- Controller with display menus and touch pad interface
- Indicator lights for power, stirrer and heater operation
- Supplied with a support rod (NOTE clamps are not supplied)
- CE certification



Cole-Parmer®

Digi Mantles - SHM-250

The Cole-Parmer® Digi-Mantles enable a round bottom flask of 100 to 250mL, 500mL or 1000mL capacity to be stirred and heated up to an element temperature of 450°C through precise electronic control, giving an accurate measure of temperature and stirring. The modular design allows heating cartridges of different sizes to be interchanged using the same SHM-250 digital controller as a base, which makes Digi-Mantles a very cost-effective option.

Heater cartridge

The heater cartridge ensures that the temperature is uniformly distributed across the round bottom flask. Even at an element temperature of up to 450°C, the outside of the heater cartridge remains “cool-to-the-touch” due to the air flow through ventilation slots beneath and around the rim of the case. The heater cartridge comes in 3 sizes for heating round bottom flasks of capacity 100 to 250mL (SHM-250D-250), 500 mL (SHM-250D-500) and 1000mL (SHM-250D-1000) capacity.

SHM-250 Digital controller

Used to control both temperature and stirring speed independently, the SHM-250 digital controller has a revolutionary CTC (Capacitance Touch Control) panel, which is both easy to read and use, and you can set the required temperature and stir speed by using the up/down arrows. The control panel has separate indicators lights for the power, heater and stirrer functions, along with a 3-digit display indicating the actual temperature from ambient to 450°C. Stirring speeds from 100 to 2000rpm are obtained by lightly touching the stirrer speed keys.

Temperature control

Heating is controlled by a modern state of the art microprocessor, which displays the heat setting as a percentage of the total power. An optional temperature probe may be used to gauge the temperature of the flask contents more accurately (up to 220°C); the temperature probe controls heating via the temperature feedback circuit and the actual temperature is displayed.

Improved stirring

The SHM-250 digital controller and motor arrangement has recently been upgraded to allow for accurate low speed stirring control and higher stirring speeds. Uniform stirring is provided via a motorised rotating magnet assembly positioned to provide maximum magnetic flux linkage to rotate the stirrer bars in each reaction vessel.



Technical Specification

Specification	SHM-250D-250	SHM-250D-500	SHM-250D-1000
Voltage	230V or 115V	230V or 115V	230V or 115V
Flask Capacity	100 - 250mL	500mL	1000mL
Max element temperature	450°C	450°C	450°C
Stir Speed Range	100 - 2000rpm	100 - 2000rpm	100 - 2000rpm
Case Material	Powder-coated Aluminium	Powder-coated Aluminium	Powder-coated Aluminium
Dimensions (d x w x h)	300 x 300 x 650mm	300 x 300 x 650mm	300 x 300 x 650mm
Shipping weight	3.1kg	3.1kg	3.1kg

Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Heating Mantle Digi Base	36204-13	SHM-250	-	OMCA
Heating Mantle Digi 250mL 230V	36204-15	SHM-250	SHM-250D-250	OMCA0250
Heating Mantle Digi 250mL 115V	36204-17	SHM-250	SHM-250D-250-115	OMCA0250X1
Heating Mantle Digi 500mL 230V	36204-19	SHM-250	SHM-250D-500	OMCA0500
Heating Mantle Digi 500mL 115V	36204-21	SHM-250	SHM-250D-500-115	OMCA0500X1
Heating Mantle Digi 1000mL 1L 230V	36204-23	SHM-250	SHM-250D-1000	OMCA1000
Heating Mantle Digi 1000mL 1L 115V	36204-25	SHM-250	SHM-250D-1000-115	OMCA1000X1

Accessories

Description	Ordering Number	Legacy Sku.
PT100 Temperature probe (5 pin)	36630-70	ATS10063
Replacement 100-250mL Digi-Mantle heater cartridge	36204-01	OM0250
Replacement 500mL Digi-Mantle heater cartridge	36204-05	OM0500
Replacement 1000mL Digi-Mantle heater cartridge	36204-09	OM1000

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