

# New Product Collection



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Cole-Parmer® is home to more than 200,000 laboratory essentials that have become synonymous with unsurpassed quality and indispensable value for laboratory scientists around the world.

Our highly-trained teams of technical experts are renowned for offering exceptional service and support. The team of representatives are comprised of product experts with scientific backgrounds and industry experience. Customers can rely on their full support when selecting the right solutions for their applications and workflows.

Consolidating market leading legacy brands into  
a single world-class brand - Cole-Parmer®



# Cole-Parmer®

## Cole-Parmer® Microscopes

- Compound and stereozoom microscopes available
- Excellent clarity and resolution
- Robust and sturdy with crisp, high-resolution images
- 5-year warranty



Available with all models:



CE  
MARKED



ROTATING  
HEAD 360°



TRANSMITTED  
LIGHT



ANTI-  
BACTERIAL  
PROTECTION



5-YEAR  
WARRANTY

# Cole-Parmer® Microscopes

## MSU-100 Series Compound Microscope

### Excellent optical clarity and resolution

- Binocular, entry-level microscope
- Easy to use and rugged, able to withstand extensive use
- Corded or cordless operation

Description	SMP objectives	Objective type	Power	Item number
Binocular compound microscope	4/10/S40/S100x	Achromatic	100 to 240 V, 50/60 Hz	78903-90



## MSU-200 Series Compound Microscope

### Robust and sturdy with crisp, high-resolution images

- Reversed nosepiece or four semi-plan objectives
- Integrated X-Y mechanical stage
- Ergonomic stand
- Corded or cordless operation

Description	SMP objectives	Objective type	Power	Item number
Binocular compound microscope	4/10/S40/S100x	Brightfield semi-plan	100 to 240 V, 50/60 Hz	78904-00



## MSU-400 Series Compound Microscopes

### Clear, bright images at every magnification

- Integrated, rackless X-Y mechanical stage
- Cable storage and anti-theft systems
- Ideal for secondary schools, universities, small- and mid-size laboratories, and veterinary applications
- Specialized objective available for fluorescence

Description	Objectives	Objective type	Power	Item number
Binocular compound microscope	4/10/S40/S100x E-Plan IOS	Brightfield semi-plan	100 to 240 V, 50/60 Hz	78904-02
Trinocular compound microscope	4/10/S40/S100x E-Plan IOS	Brightfield semi-plan	100 to 240 V, 50/60 Hz	78904-04
Trinocular compound microscope	4/10/S40/S100x Plan IOS	Brightfield plan	100 to 240 V, 50/60 Hz	78904-07
Trinocular compound microscope	10/20/S40/S100x Plan Phase IOS	Phase contrast plan	100 to 240 V, 50/60 Hz	78904-10
Trinocular compound microscope	4/10/S40/S100x Plan Fluarex PLFi	Fluorescence-LED	100 to 240 V, 50/60 Hz	78904-13





# Cole-Parmer® Microscopes

## MSU-600 Series Compound Microscopes

### Powerful and ergonomic

- Modern design and compact size allow more working space, safer operation and enables easy storage
- Ideal for high schools, universities, life science, and biomedical science
- Specialized objectives available for darkfield, metallurgical and polarization

Description	Objectives	Objective type	Stage	Power	Item number
Binocular compound microscope	4/10/40/100x E-Plan IOS	Brightfield semi-plan	187/230 x 140 mm rackless stage	100 to 240 V, 50/60 Hz	78904-16
Trinocular compound microscope	4/10/40/100x E-Plan IOS	Brightfield semi-plan	187/230 x 140 mm rackless stage	100 to 240 V, 50/60 Hz	78904-18
Trinocular compound microscope	4/10/40/100x Plan IOS	Brightfield plan	187/230 x 140 mm rackless stage	100 to 240 V, 50/60 Hz	78904-21
Trinocular compound microscope	10/20/40/100x Plan Phase IOS	Phase contrast plan	187/230 x 140 mm rackless stage	100 to 240 V, 50/60 Hz	78904-24
Trinocular compound microscope	4/10/40/100x Plan IOS	Darkfield plan	187/230 x 140 mm rackless stage	100 to 240 V, 50/60 Hz	78904-27
Trinocular compound microscope	5/10/20/S50x Plan PLMi IOS	Metallurgical plan	150 x 140 mm mechanical rackless stage	100 to 240 V, 50/60 Hz	78904-30
Trinocular compound microscope	5/10/20/S50x Plan PLPOLRi	Polarization plan	Ø 160 mm rotatable round stage	100 to 240 V, 50/60 Hz	78904-33



## MSS-200 Series Stereozoom Microscopes

### Robust and sturdy with crisp, high-resolution images

- Incident and transmitted adjustable LED illuminations
- Coarse adjustment with tension control
- Developed for laboratory applications
- Ergonomic carrying grip

Description	Magnification	Objective type	Power	Item number
Trinocular stereozoom microscope; pillar stand	7.0 to 45x zoom	Achromatic	100 to 240 V, 50/60 Hz	78904-66
Trinocular stereozoom microscope; rack and pinion stand	7.0 to 45x zoom	Achromatic	100 to 240 V, 50/60 Hz	78904-69



# Cole-Parmer® Microscopes

## MSS-400 Series Stereozoom Microscopes

### Excellent optical clarity and resolution

- Perfect for analyzing all types of material surfaces and for preparing biological samples
- Microscopes allow specimen examination with high precision and are suitable for the highest demanding applications

Description	Magnification	Objective	Power	Item number
Professional trinocular stereozoom microscope; rack and pinion stand	6.5 to 55x zoom	Achromatic	100 to 240 V, 50/60 Hz	78904-48
Professional trinocular stereozoom microscope; pillar stand	6.5 to 55x zoom	Achromatic	100 to 240 V, 50/60 Hz	78904-51
Professional trinocular stereozoom microscope; double arm stand	6.5 to 55x zoom	Achromatic	100 to 240 V, 50/60 Hz	78904-54
Professional trinocular stereozoom microscope; single arm stand	6.5 to 55x zoom	Achromatic	100 to 240 V, 50/60 Hz	78904-57
Professional trinocular stereozoom microscope; embryology pillar stand with rotating mirror	6.5 to 55x zoom	Achromatic	100 to 240 V, 50/60 Hz	78904-60
Professional trinocular stereozoom microscope; pillar stand with dual LED flexible arms	6.5 to 55x zoom	Achromatic	100 to 240 V, 50/60 Hz	78904-63



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**Cole-Parmer®**

## Cole-Parmer® Undergrad Hot Plates, Stirrers and Hot Plate Stirrers - HP-200, ST-200 and SHP-200

- The range of Undergrad hot plates includes dedicated hot plates, stirrers, and combination hot plate stirrer models
- Available in a choice of coated metal or ceramic tops
- Allows flexibility of vessel sizes and combinations; e.g. four 250mL beakers can easily fit on the hot plate surface at the same time
- BioCote® Antimicrobial Protection included on all products



Hot Plate Stirrer SHP-200-S

# Cole-Parmer® Undergrad Hot Plates, Stirrers and Hot Plate Stirrers - HP-200, ST-200 and SHP-200

## Safety In Design

For safety, all units are designed to direct spills away from the user controls. For greater convenience and power saving, units are built with a standard mains switch (excluding stir only models). All units are incorporated with microprocessor-controlled dual thermocouples to ensure accurate temperature control and protection from overheating.

## Power in Performance

Powerful magnets and motors allow remarkable stirring speeds (up to 2000 rpm) and mixing of large volumes of liquids (up to 15 L).

## Temperature Controller

All Cole-Parmer® Undergrad HP-200/SHP-200 are compatible with the temperature controller. Together with your Undergrad hotplate, the temperature controller ensures accurate temperature control of aqueous or oil based samples, up to a maximum of 200°C. The HP-200/SHP-200 temperature controller is automatically detected when plugged in.

## Protected by BioCote®

BioCote® utilises silver ion, copper, zinc and organic additives to provide built-in antimicrobial protection; so the Cole-Parmer® Undergrad range can support a safer and more hygienic laboratory environment. By reducing levels of bacteria, mould and fungi, your BioCote® protected piece of equipment can help reduce the risk of cross-contamination and consequently disease transmission within the lab.

HP-200-S



ST-200-S



SHP-200-S



SHP-200D-S



HP-200-C



ST-200-C



SHP-200-C



SHP-200D-C



Temperature Controller TC-200D



## Technical Specification - Hot Plate Stirrer

					Hot Plates		Stirrers	
Specification	SHP-200-S	SHP-200D-S	SHP-200-C	SHP-200D-C	HP-200-S	HP-200-C	ST-200-S	ST-200-C
Plate material	Coated Aluminium/Silicon	Coated Aluminium/Silicon	Glass Ceramic	Glass Ceramic	Coated Aluminium/Silicon	Glass Ceramic	Stainless Steel	Glass Ceramic
Plate dimensions mm	150 x 150	150 x 150	150 x 150	150 x 150	150 x 150	150 x 150	150 x 150	150 x 150
Heated area mm	150 x 150	150 x 150	120 x 120	120 x 120	150 x 150	120 x 120	-	-
Heater power, watt	800	800	600	600	750	530	-	-
Max plate temp °C	325	325	450	450	325	450	-	-
Stirrer speed rpm	100 - 2000	100 - 2000	100 - 2000	100 - 2000	-	-	100-2000	100-2000
Max stirring capacity L	15	15	15	15	-	-	15	15
Compatible with SCT2	Yes	Yes	Yes	Yes	Yes	Yes	No	No
Control accuracy w/ SCT2, °C	±1°C	±1°C	±1°C	±1°C	±1°C	±1°C	-	-
Dimensions (w x d x h), mm	180 x 255 x 122	180 x 255 x 122	180 x 255 x 122	180 x 255 x 122	180 x 255 x 122	180 x 255 x 122	180 x 255 x 122	180 x 255 x 122
Net weight, kg	3.1	3.1	3.1	3.1	2.5	2.5	2.4	2.4
Power, watt	750	750	550	550	700	500	60	60
Electrical supply	120V, 60Hz or 230V, 50Hz,	120V, 60Hz or 230V, 50Hz,	120V, 60Hz or 230V, 50Hz,	120V, 60Hz or 230V, 50Hz,	120V, 60Hz or 230V, 50Hz,	120V, 60Hz or 230V, 50Hz,	120V, 60Hz or 230V, 50Hz,	120V, 60Hz or 230V, 50Hz,
IP rating	32	32	32	32	32	32	32	32
Digital display version	N	Y	N	Y	N	N	N	N

## Ordering Information

Description	Ordering Number	Model No.
Stirrer/hot plate, ceramic plate, 230V / 50Hz	04807-58	SHP-200-C
Stirrer/hot plate, ceramic plate, 120V / 60Hz	04807-59	SHP-200-C-120
Digital Stirrer/hot plate, ceramic plate, 230V / 50Hz	04807-62	SHP-200D-C
Digital Stirrer/hot plate, ceramic plate, 120V / 60Hz	04807-63	SHP-200D-C-120
Stirrer/hot plate, coated aluminium plate, 230V / 50Hz	04807-60	SHP-200-S
Stirrer/hot plate, coated aluminium plate, 120V / 60Hz	04807-61	SHP-200-S-120
Digital Stirrer/hot plate, coated aluminium plate, 230V / 50Hz	04807-64	SHP-200D-S
Digital Stirrer/hot plate, coated aluminium plate, 120V / 60Hz	04807-65	SHP-200D-S-120
Hot plate, ceramic plate, 230V / 50Hz	04807-50	HP-200-C
Hot plate, ceramic plate, 120V / 60Hz	04807-51	HP-200-C-120
Hot plate, coated aluminium plate, 230V / 50Hz	04807-52	HP-200-S

## Ordering Information

Description	Ordering Number	Model No.
Hot plate, coated aluminium plate, 120V / 60Hz	04807-53	HP-200-S-120
Stirrer, ceramic plate, 230V / 50Hz	04807-54	ST-200-C
Stirrer, ceramic plate, 120V / 60Hz	04807-55	ST-200-C-120
Stirrer, stainless steel plate, 230V / 50Hz	04807-56	ST-200-S
Stirrer, stainless steel plate, 120V / 60Hz	04807-57	ST-200-S-120
Temperature Controller	04807-90	TC-200D
Retort rod, 600 x 12 mm diameter	04805-91	-
Probe holder for rod	04807-91	-
PTFE coated temperature probe	04805-93	-

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**Cole-Parmer®**



## Cole-Parmer® Premium Hot Plate HP-400

- Hot surface warning light flashes when plate temperature is above 50°C
- Durable front panel resists spills and chemicals
- Available in various colors





## Cole-Parmer® Premium Hot Plate HP-400

The Cole-Parmer® HP-400 Premium Hot Plates have been designed to seamlessly blend scientific precision with contemporary styling, to meet the day to day needs of today's scientific professionals and students. A simple clean body allows for any spillages to be easily deflected from the user. A spill-resistant front control module with chemically toughened glass, means you can clearly see what's going on without fear of cosmetic damage to the unit. The mains independent "Hot" warning light will flash whenever the plate temperature is above 50°C even when the hotplate is turned off and unplugged from the mains. All models have an integral fixing point for a retort rod.

Premium units feature a digital temperature setting, set and then actual temperature are shown on the seven segment digital display. Where accurate sample temperature control is required, the PT100 probe included with the hotplate can be used. Ceramic units offer excellent chemical resistance and are easy to clean. The thermal properties of a ceramic surface allow very high plate temperatures, while cool edges reduce the chance of accidental burns. Ceramic coated aluminium surfaces offer a robust top plate with excellent heat transmission. The top plate has a thin ceramic coating for added chemical resistance. A 700W element gives rapid heating and ensures even temperature distribution across the whole surface of the plate. The entire Cole-Parmer® range is protected by BioCote® antimicrobial protection.

### Technical Specification

Specification	HP-400
Plate material	Aluminium silicon alloy
Plate dimensions, mm	150 x 150
Heated area, mm	150 x 150
Heater power, W	700
Display resolution °C	1
Max. plate temp. °C	325
Connection for Ext. temperature sensor	PT100 temperature probe (included)
Control accuracy with probe °C	± 1°C
Hot warning light	Mains Independent
Programmable	Yes
Available colors	White/Blue
Net weight, kg	2.5 kg
Overall dimensions (w x d x h)	180 x 300 x 93
Electrical supply	120V, 60Hz or 230V, 50Hz

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Small Metal Hot Plate, Premium, Blue	04806-49	HP-400	HP-400-B	SP150B
Small Metal Hot Plate, Premium, Blue 120V	04806-48	HP-400	HP-400-B-120	SP150B/120
Small Metal Hot Plate, Premium, White	04806-51	HP-400	HP-400-W	SP150W
Small Metal Hot Plate, Premium, White 120V	04806-50	HP-400	HP-400-W-120	SP150W/120

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**Cole-Parmer®**

## Cole-Parmer® Premium Hot Plate Stirrer SHP-400

- Hot surface warning light flashes when plate temperature is above 50°C
- Durable front panel resists spills and chemicals
- Available in various colors





## Cole-Parmer® Premium Hot Plate Stirrer SHP-400

The Cole-Parmer® SHP-400 Premium Hot Plates have been designed to seamlessly blend scientific precision with contemporary styling and meet the day to day needs of today's scientific professionals and students. The mains independent "Hot" warning light will flash whenever the plate temperature is above 50°C even when the hotplate is turned off and unplugged from the mains. This unit features an integral fixing point for a retort rod. Ceramic coated Aluminium surfaces have been designed for very accurate top plate temperature. Ideal for microarrays, in-situ hybridisation and specialised electronics applications. The top plate has a thin ceramic coating for added chemical resistance. A 700W element gives rapid heating and ensures even temperature distribution across the whole surface of the plate.

As the hot plate heats the sample to the set temperature, the advanced control algorithm automatically measures the rate of temperature rise to judge the capacity and nature of samples (e.g. oil or aqueous). It then optimises the heating rate to minimize overshoot and time to set point. An audible alert sounds when the set temperature has been reached. There is the ability to create programs, controlling the temperature. Individual customer temperature profiles can be created and saved to the unit allowing for fast set up of complicated experimental procedures, without tying the user to the unit adjusting settings for a prolonged period of time. The unit is supplied with a PTFE coated temperature probe, which when immersed within the sample allows accurate sample temperature control to within  $\pm 1^\circ\text{C}$ .

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Small Metal Hot Plate, Premium, Blue	04806-65	SHP-400	SHP-400-BS	SP152B
Small Metal Hot Plate, Premium, Blue, 120V, 60Hz	04806-64	SHP-400	SHP-400-BS-120	SP152B/120
Small Metal Hot Plate Premium, White	04806-67	SHP-400	SHP-400-WS	SP152W
Small Metal Hot Plate, Premium, White, 120V, 60Hz	04806-66	SHP-400	SHP-400-WS-120	SP152W/120
Small Ceramic Hot Plate, Premium, Blue	04806-81	SHP-400	SHP-400-BC	CP152B
Small Ceramic Hot Plate, Premium, Blue, 120V, 60Hz	04806-80	SHP-400	SHP-400-BC-120	CP152B/120
Small Ceramic Hot Plate, Premium, White	04806-83	SHP-400	SHP-400-WC	CP152W
Small Ceramic Hot Plate, Premium, White, 120V, 60Hz	04806-82	SHP-400	SHP-400-WC-120	CP152W/120

### Technical Specification

Specification	SHP-400
Plate material	Ceramic or Ceramic-Coated Aluminium
Plate dimensions, mm	150 x 150
Heated area, mm (Ceramic)	120 x 120
Heated area, mm (Ceramic-Coated Aluminium)	150 x 150
Heater power, W	Ceramic 500W, Ceramic Coated Alum 700W
Stirrer Speed, RPM (Ceramic)	50 up to 1250
Stirrer Speed, RPM (Ceramic-Coated)	50 up to 1400
Display resolution $^\circ\text{C}$	1
Max. plate temp. $^\circ\text{C}$	Ceramic 450 $^\circ\text{C}$ , Ceramic Coated Alum 325 $^\circ\text{C}$
Connection for Ext. temperature sensor	PT100 temperature probe (included)
Control accuracy with probe $^\circ\text{C}$	$\pm 1^\circ\text{C}$
Hot warning light	Mains Independent
Programmable	Programmable stopstart & sinusoidal
Available colors	Blue/White
Net weight, kg	Ceramic 2.68 kg, Ceramic Coated Alum 2.73 kg
Overall dimensions (w x d x h)	180 x 300 x 93
Electrical supply	120V, 60Hz or 230V, 50Hz

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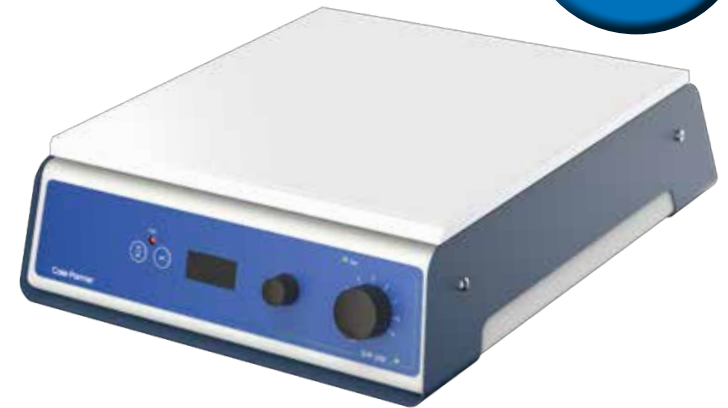
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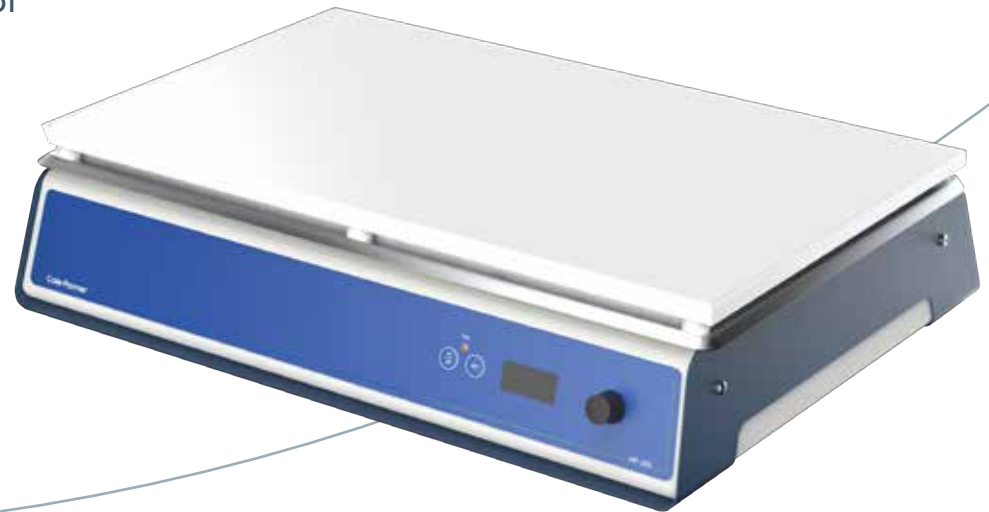
**Cole-Parmer®**

## Cole-Parmer® Large Capacity Hot Plates and Stirrers

- 30 x 30cm (12" x 12"), and 30 x 50cm (12" x 20")
- Digital and Infrared
- Choice of plate material
- All units incorporate the latest technology, microprocessor controlled, dual thermocouples to ensure accurate temperature control and over temperature protection
- Biocote® anti-microbial protection
- LED temperature indicator
- Hot warning light, remains active even when unplugged
- Now includes a 120V variant across the range



Hotplate Stirrer SHP-200D-L-C



Hotplate Stirrer HP-200D-XL-C



# Cole-Parmer® Large Capacity Hot Plates HP-200 Series - Digital

## Features:

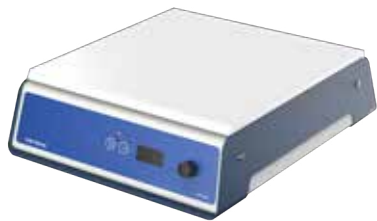
- Digital setting and control of plate temperature
- Accurate temperature control by microprocessor
- Choice of top plate material
  - glass ceramic – provides excellent chemical resistance, high plate temperatures, easy to clean
  - aluminum/silicon alloy – rapid heating and even temperature distribution across whole plate
- Large square plate area ideal for heating one large vessel or several smaller ones
  - 30 x 50cm can accommodate up to 30 x 100mL beakers
- Hot warning light, remains active even when unplugged while above 50°C
- 30 x 30cm (12" x 12")
  - 04807-66-67 – ceramic, max temp 450°C
  - 04804-80-81 – aluminum, max temp 300°C
- 30 x 50cm (12" x 20")
  - 04807-70 - ceramic, max temp 450°C
  - 04807-82-83 - aluminum, max temp 300°C



HP-200D-L-S  
230V: 04807-80  
120V: 04807-81



HP-200D-XL-S  
230V: 04807-82  
120V: 04807-83



HP-200D-L-C  
230V: 04807-66  
120V: 04807-67



HP-200D-XL-C  
230V: 04807-70





HP-200-IR-L  
230V: 04807-84  
120V: 04807-85

## Cole-Parmer® Large Capacity Hot Plates HP-200 Series - Infrared

### Features:

- Easy to use temperature control dial
- Infrared heater is efficient and saves time and energy
  - even plate temperatures and uniform heating conditions
- Ideal for heating large volumes of liquid
- Chemically resistant ceramic top
  - Max temp 450C
- Hot warning light, remains active even when unplugged while above 50°C
- 30 x 30cm (12" x 12")



ST-200-L-S  
230V: 04807-74  
120V: 04807-75

## Cole-Parmer® Large Capacity Stirrers ST-200 Series

### Features:

- Easy to use temperature control dial
- Powerful magnetic drive with electronic feed-back speed control accurately maintains the set speed
- Powerful magnets for strong magnetic coupling
- Speed range - 100-600 rpm
- Easily stirs up to 30 liters
- Robust, durable construction with stainless steel top
- 30 x 30cm (12" x 12")



## Cole-Parmer® Large Capacity Stirrer/ Hot Plates SHP-200 - Digital

### Features:

- Easy to use temperature and stirring control dials
- Choice of top plate material
  - glass ceramic – provides excellent chemical resistance, high plate temperatures, easy to clean
  - aluminum/silicon alloy – rapid heating and even temperature distribution across whole plate
- Large square plate area ideal for handling large vessel
- Powerful stirring action – volumes up to 15 Liters
- Independent safety circuit to protect against overheating
- Hot warning light, remains active even when unplugged while above 50°C
- 30 x 30cm (12" x 12")
  - 04807-76-77 – ceramic, max temp 450°C, stirring 100 – 1500 rpm
  - 04807-78-79 – aluminum, max temp 300°C, stirring 100 – 1500 rpm



SHP-200D-L-C  
230V: 04807-76  
120V: 04807-77



SHP-200D-L-S  
230V: 04807-78  
120V: 04807-79



SHP-200-IR-L  
230V: 04807-86  
120V: 04807-87

## Cole-Parmer® Large Capacity Stirrer/ Hot Plates SHP-200 Series - Infrared

### Features:

- Easy to use temperature control dial
- Powerful magnetic drive with electronic feed-back speed control accurately maintains the set speed
- Powerful magnets for strong magnetic coupling - stirring 100 - 1500 rpm
- Easily stirs up to 30 liters
- Chemically resistant ceramic top - max temp 450°C
- 30 x 30cm (12" x 12")



## Technical Specification

Specification	HP-200D-L-C	HP-200D-L-S	HP-200D-XL-C	HP-200D-XL-S	ST-200-L-S	SHP-200D-L-C	SHP-200D-L-S	HP-200-IR-L	SHP-200-IR-L
Plate material	Glass ceramic	Al/Si alloy	Glass ceramic	Al/Si alloy	Stainless steel	Glass ceramic	Al / Si alloy	-	-
Plate dimensions, mm	300 x 300	300 x 300	300 x 500	300 x 500	300 x 300	300 x 300	300 x 300	300 x 300	300 x 300
Heated area, mm	200 x 200	300 x 300	250 x 450	300 x 500	-	200 x 200	300 x 300	140 diameter	140 diameter
Heater power, W	1200	600	2250	1500	-	1200	600	900	900
Max. plate temp. °C	450	300	375	300	-	450	300	-	-
Speed range, rpm	-	-	-	-	100 x 600	100 to 1500	100 to 1500	-	100 to 1500
Max.stirring capacity, litres	-	-	-	-	30	15	15	-	-
Dimensions, mm (w x d x h)	320 x 370 x 120	320 x 370 x 120	560 x 360 x 130	520 x 360 x 130	328 x 369 x 103	300 x 365 x 105	300 x 365 x 105	300 x 365 x 105	300 x 365 x 105
Net weight, kg	6	6	12	12	5	7	7	4	4
Electricity supply	120V, 60Hz 230V 50/60Hz	120V, 60Hz 230V 50/60Hz	230V, 50Hz	120V, 60Hz 230V 50/60Hz	120V, 60Hz 230V 50/60Hz	120V, 60Hz 230V 50/60Hz	120V, 60Hz 230V 50/60Hz	120V, 60Hz 230V 50/60Hz	120V, 60Hz 230V 50/60Hz
IP Rating	31	31	-	-	-	-	-	-	-

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Ceramic, Digital, 30x30cm Hotplate, 230V	04807-66	HP-200	HP-200D-L-C	CB300
Ceramic, Digital, 30x30cm Hotplate, 120V	04807-67	HP-200	HP-200D-L-C-120	CB300/120V/60
Ceramic, Digital, 30x50cm Hotplate, 230V	04807-70	HP-200	HP-200D-XL-C	CB500
Metal, Analog, 30x30cm Stirrer, 230V	04807-74	ST-200	ST-200-L-S	SB301
Metal, Analog, 30x30cm Stirrer, 120V	04807-75	ST-200	ST-200-L-S-120	SB301/120V/60
Ceramic, Digital, 30x30cm Hotplate/Stirrer, 230V	04807-76	SHP-200	SHP-200D-L-C	CB302
Ceramic, Digital, 30x30cm Hotplate/Stirrer, 120V	04807-77	SHP-200	SHP-200D-L-C-120	CB302/120V/60
Metal, Digital, 30x30cm Hotplate/Stirrer, 230V	04807-78	SHP-200	SHP-200D-L-S	SB302
Metal, Digital, 30x30cm Hotplate/Stirrer, 120V	04807-79	SHP-200	SHP-200D-L-S-120	SB302/120V/60
Metal, Digital, 30x30cm Hotplate, 230V	04807-80	HP-200D	HP-200D-L-S	SD300

## Ordering Information - continued

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Metal, Digital, 30x30cm Hotplate, 120V	04807-81	HP-200D	HP-200D-L-S-120	SD300/120V/60
Metal, Digital, 30x50cm Hotplate, 230V	04807-82	HP-200D	HP-200D-XL-S	SD500
Metal, Digital, 30x50cm Hotplate, 120V	04807-83	HP-200D	HP-200D-XL-S-120	SD500/120V/60
Infrared Hotplate, 30x30cm, 230V	04807-84	HP-200	HP-200-IR-L	CR300
Infrared Hotplate, 30x30cm, 120V	04807-85	HP-200	HP-200-IR-L-120	CR300/120V/60
Infrared Hotplate/Stirrer, 30x30cm, 230V	04807-86	SHP-200	SHP-200-IR-L	CR302
Infrared Hotplate/Stirrer, 30x30cm, 120V	04807-87	SHP-200	SHP-200-IR-L-120	CR302/120V/60

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**Cole-Parmer®**

## Cole-Parmer® Industrial Flame Photometer -FF-200

- Designed for industrial analysis
- Supplied with Na, K, Li, Ba and Ca filters
- Low temperature, single channel
- Flame failure safety system
- Operates with propane, butane, natural gas or LPG
- 3 year warranty





## Technical Specification

Specification	FF-200
Parameter	FF-200
Range	0 to 199.9ppm
Limits of detection Na	0.2ppm
K	0.2ppm
Li	0.25ppm
Ca	15ppm
Ba	30ppm
Reproducibility	<1% coefficient of variation for 20 consecutive samples using 10ppm Na set to read 50
Linearity	< 2% error when 3ppm Na/K and 5ppm Li are set to read 100
Stability	< 2% drift over 5min when continuously aspirating 10ppm sample set to 50.0. Specificity Interference from Na/K and Li equal in concentration to test element will be <0.5%
Recorder output	Nominal 1.00V for a reading of 100.0
Electrical supply	90-125V or 190-250V @50/60Hz
Air supply	Moisture and oil free, 6 litre/min @ 14psi
Fuel	Propane, butane, natural gas or LPG
Size (w x d x h)	420 x 360 x 300mm
Weight	8kg

## Cole-Parmer® Industrial Flame Photometer - FF-200

The Cole-Parmer® FF-200 is a low temperature, single channel flame photometer that is designed for the routine determination of sodium, potassium, calcium, barium and lithium concentrations.

The flame failure safety system makes these products ideal for use in industrial and educational environments. The use of fine and coarse sensitivity controls allows for accurate measurements each and every time.



## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer FF-200 (230V) Economical Flame Photometer, 230V	83055-05	FF-200	FF-200D-I	500701

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**Cole-Parmer®**

## Cole-Parmer® Microcentrifuge - CF-200

- Small footprint accommodates up to 12 tubes or two 8-tube strips (order strip rotor separately)
- Variable speed up to 15,000 rpm provides gentle to intense spinning for greater versatility
- Digital timer and rpm display ensure accurate and repeatable results
- Last run memory is ideal for routines - no need to reprogram after every run
- Safety features include BioCote® antimicrobial protection and a locking lid





## Cole-Parmer® Microcentrifuge - CF-200

A compact and quiet microcentrifuge for centrifugation of up to 12 x 1.5ml or 2.0ml microtubes or two strips of 8 x 0.2ml tubes at speeds of up to 15,000 rpm. With advanced features typical of larger benchtop centrifuges the measurement parameters can be easily tracked via the large backlit LCD display. Simple control is achieved through the easy-to-use interface. The microcentrifuge is supplied with two sets of adaptors for use with the fixed angle rotor to securely hold smaller tube sizes of 0.2-0.3ml and 0.4-0.5ml tubes.

The unit features a convenient last run memory feature, allowing quick and easy resumption of the last used parameters. In addition to the user-friendly digital interface, the centrifuge comes with software and a USB cable allowing for remote operation and data acquisition. For safety, the lid remains locked while the rotor is in motion and automatically releases when the rotor comes to a halt. In the event of a power failure, an emergency lid release latch is installed in the base. This unit can be easily shared between users thanks to its safe BioCote® antimicrobial protection.

### Technical Specification

Specification	CF-200 Microcentrifuge
Maximum Speed	15,000 rpm
Maximum RCF	15,596 x g
Maximum Capacity	12 x 1.5 or 2.2ml tubes 2 x 0.2ml 8-tube strips
Timer	30s to 999 mins (1 min Intervals)
Acceleration Time	≤30s (to full speed)
Deceleration time	≤40s (fully stopped)
Noise level	≤60dB
Weight	4kg
Power	220V, 50/60Hz
Dimensions, mm (w x d x h)	262 x 230 x 131

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Microcentrifuge	85230-00	CF-200	CF-200	SCF3

### Accessories

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Strip tube rotor, 2 x 0.2ml 8-tube strips	85230-06	CF-200	N/A	SCF3/2
0.5ml tube adaptors	85230-05	CF-200	N/A	SCF3/1/05
0.2ml tube adaptors	85230-04	CF-200	N/A	SCF3/1/02

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**Cole-Parmer®**



## Cole-Parmer® Stuart™ Water Stills - WS-200A-4, WS-200A-8 and WS-200AD-4

- Fully-automatic operation
- High-purity, pyrogen-free output
- Low-temperature distillate
- Operates from any raw water supply
- Reservoir level control
- Simple conversion to pre-treated feed
- Supplied with wall mounting bracket
- Safety features allow unattended operation
- Simple to clean





## Cole-Parmer® Stuart™ Water Stills - WS-200A-4, WS-200A-8 & WS-200AD-4

The WS-200A-4, WS-200A-8 and WS-200AD-4 cabinet-style water stills are available in 3 models for single or double distillation of water. The high-quality borosilicate glassware, coupled with silica sheathed heaters, produces pyrogen-free distillate from virtually any raw water supply. The unique condenser ensures a ready-to-use cold distilled water supply. The design of the units ensures maximum energy efficiency, while the built-in “clean” function enables easy cleaning without the need for dismantling the glassware. The flow-sensor can detect reduction in the flow of cooling water and adjust the stills to run normally even with a low-pressure water supply, protect the units from overheating and damage. The WS-200A-4, WS-200A-8 and WS-200AD-4 water still is simple and safe to assemble; both the acrylic safety screen and the cabinet lid can be removed for easy access to the glassware components.

### WS-200A-4

Operated from the laboratory bench or wall mounted to save space.  
Produces 4 L of single-distilled water per hour.

### WS-200A-8

Ideal for larger laboratories; the glassware is enclosed in the cabinet and the unit can also be operated from the laboratory bench or be wall mounted to save space.  
Produces 8 L of single-distilled water per hour.

### WS-200AS-4

Suitable for producing high purity double-distilled water. The first distillation step is carried out in a glassware set mounted at the front of the cabinet, which can be easily accessed for descaling. The water is then fed into a second set of glassware at the rear of the device and distilled for a second time. Water level sensors to ensure the heater is only activated when there is enough water in the boiler. Produces 4 L of higher purity double-distilled or 8 L of single-distilled water per hour.





# Cole-Parmer® Stuart™ Water Stills

## - WS-200A-4, WS-200A-8 & WS-200AD-4

### Technical Specification

Specification	WS-200A-4	WS-200A-8	WS-200AD-4
Output, l/hr	4, single	8, single	4, single
pH	5.0 – 6.5	5.0 – 6.5	5.0 – 6.5
Conductivity, µS/cm-1	1.0 – 2.0	1.0 – 2.0	1.0 – 1.5
Resistivity, mOhm-cm	0.5 – 1.0	0.5 – 1.0	0.7 – 1.0
Temperature, °C	25 - 35	25 - 35	25 - 35
Pyrogen content*	Pyrogen free	Pyrogen free	Pyrogen free
Water supply	1 l/min 3-100psi (20-700kPa)	2 l/min 3-100psi (20-700kPa)	2 l/min 3-100psi (20-700kPa)
Electrical supply	220 or 240V, 50-60Hz, single phase	220 or 240V, 50-60Hz, single phase	220 or 240V, 50-60Hz, single phase
Max. power, kW	3	6	6
Dimensions, mm (w x d x h)	550 x 240 x 410	550 x 240 x 410	550 x 240 x 410
IP Rating	21	21	21

NB: Conductivity and resistivity are affected by the presence of dissolved carbon dioxide in water. All figures given are based on tests carried out free from carbon dioxide at 20°C.

\*Care is required to produce pyrogen free water and the output should be tested before use.

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Water Still 4L/HR IEC	99294-05	WS-200	WS-200A-4	A4000
Water Still 4L/HR 220V	99294-00	WS-200	WS-200A-4-220	A4000/220
Water Still 4LT/HR DBLE IEC	99294-15	WS-200	WS-200AD-4	A4000D
Water Still 4LT/HR DBLE IEC 220V	99294-10	WS-200	WS-200AD-4-220	A4000D/220
Water Still 8L/HR IEC	99294-25	WS-200	WS-200A-8	A8000
Water Still 8L/HR IEC 220V	99294-20	WS-200	WS-200A-8-220	A8000/220

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**Cole-Parmer®**



## Cole-Parmer® Stuart™ Water Stills WS-200-4

- All glass construction
- Two independent safety thermostats
- Safety reservoir full shut off
- Wall mountable





## Cole-Parmer® Stuart™ Water Stills WS-200-4

The WS-200-4 Water Still ensures top-purity distillate at an economical price for your lab. The all-glass construction with silica sheathed heaters and built-in controls switch off device when the collection reservoir is full, allowing you to always maintain quality and prevent overflow even when the still is left unattended.

Two independent safety thermostats prevent over heating in the event of a water supply interruption, while the screw-threads incorporated connections allow for hoses to be fitted and removed easily and safely without risk of breakage.

### Technical Specification

Specification	WS-200-4
Output	4 litres/hr, single distilled
pH	5.0 – 6.5
Conductivity, $\mu\text{Scm}^{-1}$	1.0 – 2.0
Resistivity, $\text{mOhm-cm}$	0.5 – 1.0
Temperature	25 - 35 °C
Pyrogen content*	Pyrogen free
Water supply	1 l/min 3-100psi (20-700kPa)
Electrical supply	220 or 240V, 50-60Hz, single
Power requirement	3kW
Dimensions, mm (w x d x h)	540 x 160 x 410
IP Rating	31

*NB: Conductivity and resistivity are affected by the presence of dissolved carbon dioxide in water. All figures given are based on tests carried out free from carbon dioxide at 20°C.*

*\*Care is required to produce pyrogen free water and the output should be tested before use.*

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
D4000 Water Still 240V	99295-00	WS-200	WS-200-4	D4000
D4000 Water Still 220V	99295-01	WS-200	WS-200-4-220	D4000/EURO

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**Cole-Parmer®**



## Cole-Parmer® Stuart™ Water Stills WS-100-4

- Glass construction with long life
- Two independent safety thermostats
- Wall mountable
- Economical price





## Cole-Parmer® Stuart™ Water Stills WS-100-4

The WS-100-4 range is the ideal choice for budget conscious laboratories that cannot afford to compromise on quality. It combines economy and high performance with a host of features that comparable stills cannot match.

The unique condenser design ensures every drop of distilled water remains in contact with the cooling coil for the longest possible time, producing ready-to-use, cold distilled water, while improving heating efficiency.

### Technical Specification

Specification	WS-100-4
Output	4 litres/hr, single distilled
pH	5.0 – 6.5
Conductivity, $\mu\text{Scm}^{-1}$	3.0 – 4.0
Resistivity, $\text{mOhm-cm}$	0.25 – 0.3
Temperature	25 - 35 C
Pyrogen content*	Pyrogen free
Water supply	1 l/min 3-100psi (20-700kPa)
Electrical supply	220 or 240V, 50-60Hz, single phase
Power requirement	3kW
Dimensions, mm (w x d x h)	500 x 150 x 450
IP Rating	31

*NB: Conductivity and resistivity are affected by the presence of dissolved carbon dioxide in water. All figures given are based on tests carried out free from carbon dioxide at 20°C.*

*\*Care is required to produce pyrogen free water and the output should be tested before use.*

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
WS-100 Water Still 240V (Hard Wired)	99293-00	WS-100	WS-100-4	W4000
WS-100 Water Still 120V	99295-02	WS-100	WS-100-4-120	W4000/120V
WS-100 Water Still 240V (Same as W4000 but with plug)	99295-08	WS-100	WS-100-4-A	W4000/A
WS-100 Water Still 220V	99295-06	WS-100	WS-100-4-220	W4000/EURO

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**Cole-Parmer®**

## Cole-Parmer® Melting Point MP-250D

- Temperature resolution  $\pm 1^{\circ}\text{C}$
- Accommodates 3 melting point capillaries of up to 2mm outside diameter
- Tube guide removal for cleaning and use of cold finger
- 32-bit processor
- 4 x 1 melt memory capacity
- 3-key membrane keypad





# Cole-Parmer®

## Melting Point MP-250D

The Cole-Parmer® updated and improved MP-250D series digital melting point apparatus offers an easy way to measure the melting points of samples without sacrificing accuracy; the temperature resolution is within 0.1°C. It is ideal for multiple users, being ergonomically designed to ensure comfortable viewing for everyone, with a height-adjustable extension arm and a viewing head that may be rotated to suit each user. As a visual aid, the viewing head holds a viewing magnifier that offers 8X magnification. The melting point apparatus has a membrane keypad with easy-to-use menus.

As a further convenience, the extension arm is completely collapsible and can be neatly folded away into the unit, so that the unit can be stored flat to save space. The MP-250D-P and MP-250D-PR melting point apparatus models offer the option of storing 500 to 1000 melting point determinations and can be connected to a printer. Each MP-250D series model comes supplied with a pack of 100 capillary tubes.

### Performance

- Membrane keypad with simple menus for intuitive use
- Push button controls are conveniently located to ensure that temperatures can be recorded without looking away from the sample
- Digital microprocessor with  $\pm 0.1^\circ\text{C}$  resolution provides fast warm-up and accurate temperature control
- Samples in 3 capillary tubes may be viewed simultaneously.

### Safety and convenience

- 3 Audible beeps indicate that the oven temperature is stable and ready for sample
- Adjustable arm with viewing magnifier can be folded away into the unit
- Adjustable object lens for sharp focus
- Rotating viewing head and safety eye piece to protect against glare and hot zone
- Integral light and wide angle 8X viewing magnifier enhance sample observation, so that all 3 samples can be viewed without eye strain
- Units can be calibrated by the user on their site or by the manufacturer/service organisation. If calibrated by the user, a calibration kit is required
- Improved calibration procedure using a calibration key

### Technical Specification

Specification	MP-250D-F	MP-250D-P	MP-250D-PR	MP250D
32-bit Processor	●	●	●	●
Accommodates 3 capillary tubes up to 2mm OD (Storage for pack 100)	●	●	●	●
Tube Guide removal for cleaning and use of cold finger.	●	●	●	●
40mm diameter Lens (magnification x 8) removable and with adjustable focus	●	●	●	●
Oven temperature range (ambient to 400°C)	●	●	●	●
Temperature resolution $\pm 0.1^\circ\text{C}$	●	●	●	$\pm 1^\circ\text{C}$
Accuracy $\pm 1\%$	●	●	●	●
13-key membrane keypad	●	●	●	●
Cooling temp selection	●	●	●	●
Fast ramp rate of 10°C/minute	●	●	●	●
Selectable ramp rate of 1.0°C/min & 10°C/min	●	●	-	-
Selectable ramp rates of 0.2 - 10°C/min	-	● (default 0.2°C/min)	● (default 1.0°C/min)	-
White LED illuminated oven	●	●	●	●
Date & Time facility	-	●	●	-
Printer Output facility	-	●	●	-
Pack of 100 capillary tubes	●	●	●	●
USB Output to flash drive	-	●	●	-
Display (2 rows of characters with backlit LCD)	●	●	●	●
4 x 1 Melt memory capacity	●	●	●	-
3 x 2 Melt memory capacity	-	-	-	●
Batch memory capacity of 500 melts	-	-	-	●
Batch memory capacity of 1000 melts	-	-	●	-
Serial (RS232-C) Port for Printer	-	-	●	●
Dimensions (d x w x h), mm	355 x 200 x 80	355 x 200 x 80	355 x 200 x 80	355 x 200 x 80
Shipping Weight, kg	2.5	2.5	2.5	2.5



## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Fixed ramp rate model (100-240V, 50 / 60Hz, 15DC, 45W)	03010-51	MP-250	MP-250D-F	IA9100
Programmable ramp rate model (100-240V, 50 / 60Hz, 15DC, 45W)	03010-41	MP-250	MP-250D-P	IA9200
Beginning / ending recording model for Pharmacopeia requirements (100-240V, 50 / 60Hz, 15DC, 45W)	03010-59	MP-250	MP-250D-PR	IA9300
Beginning / ending recording model for Pharmacopeia requirements with IQ/OQ documentation (in-cludes calibration key kit) (100-240V, 50 / 60Hz, 15DC, 45W)	03010-64	MP-250	MP-250D-PR	IA9300/IQOQ
Fixed ramp rate model (100-240V, 50 / 60Hz, 15DC, 45W)	03010-15	MP-250	MP-250D	1101D

## Accessories Ordering Information

Description	Ordering Number	Legacy Sku.
Cold finger	03010-63	AZ9001
Calibration key	03010-65	AZ9253
Capillary tubes 1.5mm (10x100 pack)	03010-67	AT4042
Capillary tubes 2.0mm (10x100 pack)	03010-68	AT4043
Printer (with connecting ribbon cable)	03010-69	PR2000S
Paper roll (2) and ribbon for printer	03010-62	AT4044



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**Cole-Parmer®**



## Cole-Parmer® Stuart™ Digital Melting Point - MP-200D, MP-200D-HR

- Two samples can be tested simultaneously
- Samples viewed via a magnifying lens with clear observation aided by built in illumination
- Extendible back feet allow the unit to be operated at the optimum viewing angle
- Full access to the block aids cleaning
- The unit then heats at a fixed rate of 2°C per minute for the MP-200D and at a user selected rate of between 1 and 10°C per minute for the MP-200D-HR
- 8GB on-board storage is included, which should comfortably hold approximately 300 melt files including videos





# Cole-Parmer® Stuart™ Digital Melting Point - MP-200D, MP-200D-HR

The MP-200D and MP-200D-HR have been designed with safety and ease of operation in mind making it ideal for use in education. The temperature is selected, measured and displayed digitally making it accurate and negating the need for a thermometer. The MP-200D displays temperature to 1 degree resolution while the more advanced MP-200D-HR has a 0.1 degree resolution as well as a variable ramp rate and hold key so that the exact melt temperature can be recorded.

## Technical Specification

Specification	MP-200D	MP-200D-HR
Melting point method	Digital	Digital
No of samples	2	2
Temperature range	Ambient to 300°C	Ambient to 300°C
Temperature resolution	1°C	0.1°C
Display	Three digit LED	Four digit LED
Ramp rate	20°C per minute plateau 2°C per minute to melt	20°C per minute plateau variable between 1-10°C per minute to melt
Temperature sensor	PT100 Platinum resistance	PT100 Platinum resistance
Memory	No	No
Accessory printer	No	No
Date/time display	No	No
Cool down time 350-50°C	40 mins (300-50°C)	40 mins (300-50°C)
Heat up time 50-350°C	15mins	15mins
Electrical supply	230V, 50Hz, 50W	230V, 50Hz, 50W
Onboard capillary storage	No	No
In-built glass cutter	No	No
Language variants	English, German, French, Spanish	English, German, French, Spanish
Temperature units	°C	°C
Dimensions h x d x w	170 x 220 x 160	170 x 220 x 160
Net weight (kg)	1.8	1.8

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Analogue melting point apparatus, complete with thermometer and pack of 100 open ended melting point tubes	03011-41	MP-200	MP-200D	SMP10
Digital melting point apparatus, 0.1°C resolution, complete with pack of 100 melting point tubes, closed at one end	03011-47	MP-200	MP-200D-HR	SMP20
Analogue melting point apparatus, complete with thermometer and pack of 100 open ended melting point tubes	03011-40	MP-200	MP-200D-120	SMP10/120V/60
Digital melting point apparatus, 1°C resolution, complete with pack of 100 melting point tubes, closed at one end	03011-45	MP-200	MP-200D-HR-120	SMP20/120V/60
Glass melting point tubes, closed ends, pack of 100	03013-65	MP-200	N/A	SMP2/1
Glass melting point tubes, closed at one end, pack of 100	03013-64	MP-200	N/A	SMP10/1

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**Cole-Parmer®**



## Cole-Parmer® Stuart™ Analogue Melting Point - MP-100

- Manually adjustable heating rate, the MP-100 will rapidly heat samples up to 20°C per minute to the melt temperature and up to the maximum temperature of 250°C
- Accurate readings to within 1°C of the melt temperature can be achieved by using a slower heating rate of between 1 and 10°C per minute
- Three samples can be viewed and tested at any one time. Samples are illuminated by a bright white LED and viewed via a magnifying lens
- Detachable magnifying lens for cleaning using the simple to follow instructions printed on to the instrument





# Cole-Parmer® Stuart™ Analogue Melting Point - MP-100

With new safety features and easy to use, the MP-100 is ideal for use in lower education. Supplied with a safe, spirit filled mercury free thermometer, the low toxic blue spirit will not pose a health hazard in the event of a breakage. Easy to follow instructions are printed directly on to the apparatus and are available in most European languages.

## Technical Specification

Specification	MP-100
Melting point method	Digital
No of samples	3
Temperature range	50 to 250°C
Temperature resolution	0.1°C
Display	40x 4 LCD
Ramp rate	0.5-10°C in 0.1°C increments
Temperature sensor	PT100 Platinum resistance
Memory	8 results per tube
Accessory printer	Yes
Date/time display	Yes
Cool down time 250-50°C	12 mins
Heat up time 50-250°C	1°C to max of 20°C per minute
Electrical supply	230V, 50Hz, 50W
Onboard capillary storage	Yes
In-built glass cutter	Yes
Language variants	English, German, French, Italian, Spanish
Temperature units	°C
Dimensions h x d x w	110 x 140 x 370
Net weight (kg)	1.7

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Analogue Melting Point	03013-61	MP-100	MP-100	SMP11
Analogue Melting Point 120V	03013-60	MP-100	MP-100-120	SMP11/120V/60
Glass melting point tubes, closed ends, pack of 100	03013-65	-	-	SMP2/1
Glass melting point tubes, closed at one end, pack of 100	03013-64	-	-	SMP10/1
Cole-Parmer spirit filled thermometer, 0 to 250°C	03013-62	-	-	SMP11/1

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**Cole-Parmer®**





## Cole-Parmer® Stuart™ Melting Point - MP-400D

- LCD display, running the menu system which clearly guides you through the melting process with comprehensive directions
- Useful features such as slots for storing pre-prepared samples and a storage draw to hold a container of capillary tubes.
- Records up to 8 events in memory for each of the three sample tubes, as well as being temperature stamped these events are also date and time recorded, thanks to the integrated real time clock
- MP-400D features a two stage head adjustment, in the first movement the head is pulled towards the user, then in a separate motion the angle of the head can be adjusted by up to 126°, and will automatically hold in place





## Cole-Parmer® Stuart™ Melting Point - MP-400

Designed for fast accurate determination of melting points, the MP-400D can take three samples simultaneously within the optimised heating block, the unit has a maximum temperature of 400°C. To allow maximum flexibility a plateau facility is included with variable ramp rate between 0.5 and 10°C in 0.1°C increments. The tubes are illuminated with bright white LED's to give the clearest view of the samples during the melt. The block has been designed for easy access for cleaning, the front of the head is fully removable to allow full access to the micro furnace.

### Technical Specification

Specification	MP-400D
Melting point method	Digital
No of samples	3
Temperature range	Ambient to 400°C
Temperature resolution	0.1°C
Display	40x 4 LCD
Ramp rate	0.5-10°C in 0.1°C increments
Temperature sensor	PT100 Platinum resistance
Memory	8 results per tube
Accessory printer	Yes
Date/time display	Yes
Cool down time 350-50°C	12 mins
Heat up time 50-350°C	6 mins
Electrical supply	230V, 50Hz, 50W
Onboard capillary storage	Yes
In-built glass cutter	Yes
Language variants	English, German, French, Italian, Spanish
Temperature units	°C
Dimensions h x d x w	325 x 200 x 170
Net weight (kg)	3.6

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Advanced Melting Point	03011-49	MP-400	MP-400D	SMP30
Advanced Melting Point with IQOQ Document		MP-400	MP-400D	SMP30/IQOQ
Glass melting point tubes, closed ends, pack of 100	03013-65	MP-400	N/A	SMP2/1
Glass melting point tubes, closed at one end, pack of 100	03013-64	MP-400	N/A	SMP10/1

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**Cole-Parmer®**

## Cole-Parmer® Stuart™ Automatic Melting Point - MP-800

- All operation is via the 7" high definition colour touchscreen
- Custom designed user interface based on an established Android platform for intuitive setup and navigation
- Useful storage drawer to house all standard capillary tubes
- Camera technology is employed to produce a high resolution video of the sample melt
- 8GB on-board storage is included, which should comfortably hold approximately 300 melt files including videos





# Cole-Parmer® Stuart™ Automatic Melting Point - MP-800

Cole-Parmer® Stuart™ has been instrumental in making the automatic melting point a commonplace piece of laboratory equipment. By utilising the latest in digital imaging technology, users for the first time, had the opportunity to record a video of the melt. This provides proof of measurement for traceability, and more importantly allows scientists to trust the automatically obtained result.

Cole-Parmer® Stuart™ ensures that the automatic melting point continues to be at the cutting edge of technological advancements.

## Technical Specification

Specification	MP-800D
No of samples	3 simultaneously
Temperature range	Ambient to 400°C
Temperature resolution	0.1°C
Display	7 inch HD Colour
Ramp rates	0.1-20°C in 0.1°C increments
Temperature sensor	PT1000 Platinum resistance
Memory	8GB (approx. 300 results with video)
Cool down time 350-50°C	~12 mins
Heat up time 50-350°C	~ 6 mins
Oven control	Closed loop PID
Data transfer	USB Flash drive
Sample level	2-3mm in 50mm or 100mm length capillaries
Electrical supply	120V / 230V, 50/60Hz
Temperature units	°C or °F
Size (h x d x w)	164 x 360 x 300mm
Net Weight	4.6Kg
Languages	English / French

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Automatic melting point	03013-02	MP-800	MP-800D	SMP50
Automatic melting point with IQ/OQ documentation	03013-03	MP-800	MP-800D	SMP50/IQOQ
Glass melting point tubes, closed ends, pack of 100	03013-65	MP-800	-	SMP2/1
Glass melting point tubes, closed at one end, pack of 100	03013-64	MP-800	-	SMP10/1
Cole-Parmer® printer for melting points	83056-79	-	-	-
Cole-Parmer® glass capillary tubes open both ends, 100/pk	03013-63	-	-	-
Cole-Parmer® melting point calibration kit (standard caffeine, vanillin and sulphanilamide)	99967-49	-	-	-

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**Cole-Parmer®**



## Cole-Parmer® Overhead Stirrer Mixers and Digital Analogue Controllers

- Robust and safety assured build quality
- Feature-rich user experience
- IP44 rating for harsh environments



Overhead Mixer and Controller 55008-05

# Cole-Parmer® Overhead Stirrer Mixers and Digital Analogue Controllers - OM-100

These Cole-Parmer® Simple to use mixer heads and controller, available in analogue and digital, featuring: a robust and stable construction; safe operation; customisation; 'tool-free, finger-tight' height adjustment; and refined torque and speed settings.

## Overhead Mixer - 55008-08

Choice of control available in analog or digital, with adjustable torque and forward/reverse options. The digital controller has a timer/alarm and finer 1 rpm adjustments. Adjustable height with strong and stable retort stand features a shaft-clamp built to facilitate safe and easy 'no tool, finger-tight' adjustment of the mixer head by hand. Adjustable torque capable of a max torque of 80 Ncm/50 Ncm, with the ability to monitor torque and set both high and low limits. Customisable overhead mixer head is compatible with both analog and digital controllers, allowing for a customisable user experience, that fulfills application needs.

## Mixer Controllers - 55008-06 and 55008-07

Digital controllers have a built-in alarm and time function, so that users can leave the mixer to run, whilst they undertake other critical activities. Both analogue and digital controllers have a forward-reverse function, to allow users to alter the flow for complete mixing and greater control.



Overhead Mixer Head 55008-08 on adjustable stand



Overhead Mixer System 55008-01



Digital controller 55008-07



Analog mixer controller 55008-06



## Technical Specification

Specification	55008-00 - 55008-01	55008-02 - 55008-03	55008-04 - 55008-05
Horespower/Motor Rating	1/50	1/15	1/10
Brushless Motor	Yes	Yes	Yes
Keyless Chuck	Yes, up 3/8"	Yes, up 3/8"	Yes, up 3/8"
Through shaft	–	Yes, 10mm	Yes, 10mm
Power Supply	External Power (VAC)100-240 Power (Hz)50/60	Internal (User serviceable) Power (VAC)100-240 Power (Hz)50/60	Internal (User serviceable) Power (VAC)100-240 Power (Hz)50/60
Adjustable tilt mount	–	0-30 degrees	0-30 degrees
Weight (kg)	1.8	Motor 3 kg, Contoller 1.7 kg	Motor 3 kg, Contoller 1.7 kg
IP Rating	IP44	IP44 motor & controller	IP44 motor & controller
Max Torque	6.7 Ncm/5 Ncm	64 Ncm/38 Ncm	80 Ncm/50 Ncm
Speed Range	40-4000 rpm	50 - 2500 rpm	50 - 2500 rpm
Max Volume	38L	95L	120L
Max Viscosity	100 cP (< 4L)	1000 cP (< 4L)	2000 cP (< 4L)
Variable Speed	100:1 adjustment range	10% - 100% of full motor speed	Adjust +/- buttons by 1 rpm
Forward and reverse mixing	–	Yes	Yes
Resume after power on	Yes	Yes	Yes, user enabled
Constant torque	–	Yes up to 2300 rpm	Yes up to 2300 rpm
Torque limiting	Yes	Yes	Yes
Overload/Over-current indicator	Yes	Yes	Yes
Overheat indicator	Yes	Yes	Yes
Motor thermal fuse	–	Resettable thermal switch	Resettable thermal switch
Warranty	2 years	2 years	2 years

## Ordering Information

Description	Ordering Number	Series No.	Model No.
GP Mixer Set, 120/230 VAC	55008-00	OM-100	OM-100-SET
GP Mixer System, 120/230 VAC	55008-01	OM-100	OM-100-SYS
SP Mixer Set, 120/230 VAC	55008-02	OM-200	OM-200-SET
SP Mixer System, 120/230 VAC	55008-03	OM-200	OM-200-SYS
SD Mixer Set, 120/230 VAC	55008-04	OM-200	OM-200D-SET
SD Mixer System, 120/230 VAC	55008-05	OM-200	OM-200D-SYS
SP Mixer Controller stand alone, 120/230 VAC	55008-06	OM-200	OM-200
SD Mixer Controller stand alone, 120/230 VAC	55008-07	OM-200	OM-200D
Mixer Motor Only SP/SD, 120/230 VAC	5008-08	OM-200	OM-200-MH

- GP Mixer Set (OM-100-SET), includes: Analogue Mixer Motor with built-in controller (55008-00), 6-ft (1.8 m) power cable, 12 x 3/8 in. (30.5 x 0.95 cm) stainless steel shaft, 1.5 in. (3.8 cm) propeller, and mounting rod.
- GP Mixer System (OM-100-SYS), includes: Analogue Mixer Motor with built-in controller (55008-01), 6-ft (1.8 m) power cable, 12 x 3/8 in. (30.5 x 0.95 cm) stainless steel shaft, 1.5 in. (3.8 cm) propeller, mounting rod, double rod clamp, and mixer stand.
- SP Mixer Set (OM-200-SET), includes: Motor Head (SSM6500), Analogue Mixer Controller (55008-02), 6-ft (1.8 m) power cable, and motor bracket holder.
- SP Mixer System (OM-200-SYS), includes: Motor Head (SSM6550), Analogue Mixer Controller (55008-03), 6-ft (1.8 m) power cable, motor bracket holder, shaft 18 x 3/8 in. (45.7 x 0.95 cm), 3 in. (7.6 cm) propeller, mounting rod, double rod clamp and mixer stand.
- SD Mixer Set (OM-200-SET), includes: Motor Head (SSM6500), Digital Mixer Controller (55008-04), 6-ft (1.8 m) power cable, and motor bracket holder.
- SD Mixer System (OM-200D-SYS), includes: Motor Head (SSM6550), Digital Mixer Controller (55008-05), 6-ft (1.8 m) power cable, motor bracket holder, shaft 18 x 3/8 in. (45.7 x 0.95 cm), 3 in. (7.6 cm) propeller, mounting rod, double rod clamp and mixer stand.
- SP Mixer Controller (OM-200), includes: Analogue Mixer Controller only (55008-06)
- SD Mixer Controller (OM-200D), includes: Digital Mixer Controller only (55008-07)
- Mixer Motor only, includes: Motor Head only 55008-08)

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**Cole-Parmer®**

## Cole-Parmer® Stuart™ Mini Vortex Mixer V-100

- Variable speed up to 4500rpm
- Compact size
- Push switch operation
- Features a sophisticated inbuilt counterbalance system and suction cup feet to prevent any walking issues
- Simple push to operate control, for quick and effective mixing
- Mixing speed is variable to suit most applications
- Powerful brushless DC motor for maintenance free operation





## Cole-Parmer® Stuart™ Mini Vortex Mixer V-100

A vortex mixer, is a simple device used commonly in laboratories to mix small vials of liquid, such as reagents of an assay. The vigorous mixing action is also ideal for re-suspension of cells and pellets. For convenience the V-100 Vortex Mixer is activated by touch and quickly gets up to speed.

A robust die cast construction vortex mixer. Features a sophisticated inbuilt counterbalance system and suction cup feet to prevent any walking issues, so often associated with budget vortex mixers. Simple push to operate control, for quick and effective mixing. Mixing speed is variable to suit most applications. Incorporates a powerful brushless DC motor for maintenance free operation.

### Technical Specification

Specification	V-100
Speed range	2500 to 4500rpm
Touch mode	Yes
Orbit diameter	4.5mm
Tube diameter	Up to 30mm
Dimensions (w x d x h)	100 x 100 x 67mm
Net weight	0.55kg
IP Rating	IP43
Electrical Supply	100-240V, 50 / 60Hz, 15W

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Vortex mixer, mini, variable speed	04729-13	V-100	V-100-V	SA6

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**Cole-Parmer®**

## Cole-Parmer® Vortex Mixers V-100, V-200

- Variable speed control between 200 & 2500rpm
- Intermittent or continuous mode
- Stable low profile body
- Robust die-cast construction
- Automatic press start



Vortex Mixer V-100



Vortex Mixer V-200



Vortex Mixer V-100

Vortex Mixer V-200

# Cole-Parmer®

## Vortex Mixer V-100, V-200

### Vortex Mixer V-100

For rapid mixing of samples contained in test-tubes, small flasks and bottles. Starts automatically when the rubber cup is depressed and stops once vessel is removed. Heavy die-cast body for stability during use.

### Vortex Mixer V-200

Mixing speed can be selected from 200rpm for very gentle mixing to 2500rpm for vigorous agitation. Choose between 'touch' mode or continuous operation simply by pressing a button on the fascia. Robust die-cast body avoids unnecessary movement during use. The ergonomic low profile design makes everyday vortexing comfortable for the user.

Integral retort rod fixing allows vessels to be secured above the vortex action for long-term mixing. The V-200 can mix a variety of other vessels when used in conjunction with the accessory pack detailed below.

### Accessory Pack

For use with V-200 above, pack contains:

1 x Plastic cradle for standard microtitre plate

1 x Circular foam insert for beakers and flasks (up to 500ml capacity)

1 x Rectangular foam insert (holds 8 x 0.2ml, 8 x 0.5ml and 16 x 1.5ml microcentrifuge tubes)

1 x Solid rectangular foam insert (blank for custom holes)

### Technical Specification

Specification	V-100	V-200
Speed	200 to 2500rpm	Fixed 2500rpm
Orbit diameter, mm	4.2	4.2
Touch mode	-	Yes
Continuous mode	-	Yes
Dimensions, mm (w x d x h)	135 x 215 x 78	135 x 215 x 78
Net weight, kg	3.2	3.2
Electrical supply	90 – 240V, 50 / 60Hz, 20W	90 – 240V, 50 / 60Hz, 20W
IP Rating	31	31

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Vortex mixer, variable speed	04729-03	V-200	V-200	SA8
Vortex mixer, fixed speed	04729-01	V-100	V-100	SA7
Accessory pack (for use with V-200 only) Max speed 800 rpm	04729-07	V-200	N/A	SA8/1

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**Cole-Parmer®**

## Cole-Parmer® Handheld Homogenizer HO-200

- Ergonomic design
- Variable motor speed 5,000 to 35,000rpm
- Processing range from 0.03ml-100ml
- Can be used with robust polycarbonate disposable probes or stainless steel ones







## Cole-Parmer® Handheld Homogenizer HO-200

The Cole-Parmer® HO-200 is a powerful, variable speed, homogenizer. The high-speed, high-torque motor makes the unit ideal for most homogenizing applications. During operation the rotor shaft, which is directly coupled to the motor, spins at up to 35,000rpm. The tube assembly that fits around the shaft remains static and as the rotor shaft spins, within the tube assembly, it creates a pumping action drawing the sample into the open end of the tube, or probe, and forcing it through the windows at the bottom of the tube assembly. This shearing action reduces the particle size of the sample. In addition the speed differential between the rapidly moving rotor, and the static tube assembly creates cavitation force, further dismantling the sample to additionally reduce particle size. The HO-200 is lightweight making it comfortable to use, and most samples can be processed within thirty seconds.

For longer processing the unit can be stand mounted using the included post clamp assembly. A retort stand is available separately. The HO-200 can accommodate a selection of stainless steel probes for larger and tougher samples and also our polycarbonate disposable probes. Disposable probes are suitable for hard tissues and ideal where cross contamination is of concern. If necessary disposable probes can be easily dismantled and autoclaved up to seven times. Through careful selection of probe type, samples of 0.03ml to 100ml can be processed. All Cole-Parmer® homogenizers are supplied with a tool kit for dismantling the rotor probes for easy cleaning

### Technical Specification

Specification	HO-200
Motor	125 watt
Speed control	5,000 to 30,000rpm
Processing range	0.05ml to 100ml
Sound level	<72 db
Net weight, kg	0.5
Dimensions, mm (h x Ø)	160 x 55
Electrical supply	115V, 50/60Hz 220-240V, 50Hz
IP Rating	30

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
HO-200 Series Homogenizer, 115V	04727-01	HO-200	HO-200-US	SHM1/US
HO-200 Series Homogenizer, 220V	04727-02	HO-200	HO-200-EU	SHM1/EURO
HO-200 Series Homogenizer, 220V-UK plug	78904-70	HO-200	HO-200	SHM1/UK

## Cole-Parmer® Laboratory Homogenizer HO-400

- Variable motor speed 5,000 to 25,000rpm
- Can be handheld or stand mounted
- Processing range from 200ul to 5L
- Powerful 850 watt motor
- Compatible with Cole-Parmer® Essentials range of disposable probes





## Cole-Parmer® Laboratory Homogenizer HO-400

With an 850 watt motor, the Cole-Parmer® HO-400 is not only powerful but provides maximum versatility being able to process virtually any sample, from tissue homogenization, cell disruption, emulsions, suspensions to protein extraction. The HO-400 features a digital control system, ensuring accuracy and repeatability, selected speeds are accurate to +/- 100rpm. The digital control system also incorporates a timer which can be set from seconds to minutes and includes a 30 second countdown timer, ideal for remote applications in fume hoods or biosafety cabinets. Soft start also ensures smooth processing without splashing.

The HO-400 can either be handheld for quick processes or securely stand mounted with a direct connection to the stand.

The HO-400 can not only, accommodate a selection of stainless steel probes for larger samples, but also the Cole-Parmer® reusable polycarbonate disposable probes. Disposable probes are suitable for hard tissues and ideal where cross contamination is of concern. If necessary disposable probes can be easily dismantled and autoclaved up to seven times. Through careful selection of probe type, samples of 200ul to 2L can be processed.

All Cole-Parmer® homogenizers are supplied with a tool kit for dismantling the rotor stator generator probes for easy cleaning.

### Technical Specification

Specification	HO-400
Motor	850 watt
Control	Digital
Timer	1s - 10 min with 30s start delay
Speed control	5,000 to 25,000rpm
Processing range	200ul to 2L
Sound level	72 db
Weight	1.6kg
Dimensions (h x Ø)	216 x 70mm
Electrical supply	220 -240V, 50Hz

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Laboratory homogeniser, supplied with 110V plug	04727-28	HO-400	HO-400D-110	SHM3
Laboratory homogeniser, supplied with UK & Euro plug	04727-29	HO-400	HO-400D	SHM3



# Cole-Parmer® Laboratory Homogenizer HO-400

## Accessories

Description	Ordering Number
Cole-Parmer® G-style 5x75 Probe	04727-60
Cole-Parmer® G-style 5x75 Coarse Probe	04727-62
Cole-Parmer® G-style 7x115 Probe	04727-33
Cole-Parmer® G-Style 7x115 Coarse Probe	04727-35
Cole-Parmer® G-Style 10x115 Probe	04727-37
Cole-Parmer® G-style 10x115 Coarse Probe	04727-39
Cole-Parmer® G-Style 20x195 Probe	04727-41
Cole-Parmer® G-Style 20x195 Coarse Probe	04727-43
Cole-Parmer® G-Style 30x195 Probe	04727-45
Cole-Parmer® G-Style 30x195W Probe	04727-46
Cole-Parmer® Tips- Hard Tissue 25pk	04727-84
Cole-Parmer® Tips - Hard Tissue 50pk	04727-85
Cole-Parmer® Tips - Hard Tissue 50pk	04727-86
Cole-Parmer® Tips- Soft Tissue 50pk	04727-87
Cole-Parmer® Sterile Tip Probes- 25pk	78904-80
Cole-Parmer® 7 mm Hybrid Probe	78904-78
Cole-Parmer® Replacement 7mm Shafts/25pk	78904-79
Cole-Parmer® Lab Stand Assembly	04727-89



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Cole-Parmer®

## Cole-Parmer® Flask Shakers - WA-200

- Vigorous shaking action
- Timed operation or continuous running
- Robust construction
- Ideal for extractions



# Cole-Parmer® Flask Shakers - WA-200



Valuable time can be taken up mixing bottles and flasks by hand. Let our flask shaker take the strain. Holding up to eight flasks or bottles, up to 500ml capacity, it creates a vigorous mixing action by simulating hand shaking. It is especially useful for applications where prolonged shaking is required as it can be left on continuously and won't get tired!

Robust construction, mounted on four rubber feet to absorb vibration and prevent unnecessary movement on the bench. Analogue timer covers 10 to 60 minutes with a manual override. Electronic feed-back control ensures a constant speed irrespective of load.

Supplied with two side arms, eight clamps and Allen key. An optional extension kit is available which consists of two extension arms and four extra clamps increasing the capacity to twelve bottles or flasks.

## Technical Specification

Specification	WA-200
Speed range	8 to 800 oscillations/min
Amplitude, mm	1.5
Dimensions, mm (w x d x h)	780 x 270 x 240
Maximum load, kg	3
Net weight, kg	8.3
Electrical supply	230V, 50Hz, 50W
IP Rating	31

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Flask shaker with two side-arms, eight clamps	51900-02	WA-200	WA-200	SF1
Spare clamp	99955-87	WA-200	N/A	SF1/1
2 x accessory side - arms and 4 x clamps. Increases the capacity to twelve bottles or flasks	99955-88	WA-200	N/A	SF1/2

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**Cole-Parmer®**



## Cole-Parmer® Orbital Shakers - SH-200D-O and SH-200D-O-L

- Smooth orbital shaking action
- Orbit of 16mm is ideal for larger samples
- Built-in digital timer
- Variable speed control to 300rpm
- Large shaker is supplied with cradle system and small shaker with flat and no-slip mat



SH-200D-O  
Orbital Shaker

# Cole-Parmer® Orbital Shakers - SH-200D-O and SH-200D-O-L

## SH-200D-O

The Cole-Parmer® compact SH-200D-O provides a smooth uniform circular motion with an orbit of 16mm. It is supplied with flat platform and non-slip mat. The shaking action is ideal for samples of 0.5 to 5ml held in multi well plates, dishes and Petri dishes.

The shaker can be used in incubators and environmental chambers (up to 40°C and 80% humidity). Alternatively, an accessory cradle system is available that can accommodate a variety of vessels including flasks, bottles or beakers via four rubber securing bars. It turns the SH-200D-O into a very effective mini platform shaker. It will hold up to: 4 x 250ml or 2 x 500ml or 1 x 1000ml Erlenmeyer flasks or bottles. The flexible cradle system has the benefit that different combinations of vessels can be used offering maximum versatility. Speed is variable from 30 to 300 rpm. Once set on the digital display, the shaking speed is effectively maintained even over long periods of time. Shaking times can be set to run for 1 to 999 minutes on the built-in digital timer, or the unit can be set for continuous operation.

## SH-200D-O-L

The SH-200D-O-L has all the features of the SH-200D-O but in a larger unit. The SH-200D-O-L comes complete with a cradle system, rather than a non slip mat, to comfortably hold flasks. The cradle type platform has four rubber cushioned horizontal securing bars with quick release handles. They can be easily adjusted both vertically and horizontally to hold most sizes and types of vessel, including flasks, bottles and beakers. For example, they will accommodate the following Erlenmeyer flasks or bottles: 12 x 250ml or 9 x 500ml or 4 x 1000ml or 2 x 2000ml. The main advantage of this cradle system is that it can accommodate different sizes of vessel, a common requirement where shakers are used by different people in the laboratory.



SH-200D-O Orbital Shaker



SH-200D-O-L Orbital Shaker

## Technical Specification

Specification	SH-200D-O	SH-200D-O-L
Shaking action	Orbital	Orbital
Platform dimensions (w x l)	220 x 220mm	335 x 335mm
Speed range	30 to 300rpm	30 to 300rpm
Orbit / amplitude	16mm	16mm
Maximum load	3kg	10kg
Overall dimensions (w x d x h)	240 x 300 x 140mm	360 x 420 x 270mm
Operational temperature range	+4 to +40°C	+4 to +40°C
Maximum permissible humidity	80%	80%
Net weight	5kg	11kg
Electrical supply	230V, 50Hz, 50W - 120V, 60 Hz	230V, 50Hz, 50W - 120V, 60 Hz

SH-200D-O-L Orbital Shaker



## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® Shaker, orbital, mini 230V, 50Hz	51901-10	SH-200	SH-200D-O	SSM1
Cole-Parmer® Shaker, orbital, mini 120V, 60Hz	51901-11	SH-200	SH-200D-O-120	SSM1/120V/60
Cole-Parmer® Shaker, orbital, large 230V, 50Hz	51901-00	SH-200	SH-200D-O-L	SSL1
Cole-Parmer® Shaker, orbital, large 120V, 60Hz	51901-01	SH-200	SH-200D-O-L-120	SSL1/120V/60

## Accessories

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® Accessory cradle with 4 securing bars mini	51700-97	SH-200	-	SSM1/1
Cole-Parmer® Large platform (340 x 300mm, holds up 8 plates)	51700-98	SH-200	-	SSM1/2
Cole-Parmer® Clear Acrylic lid mini	51700-99	SH-200	-	SSM1/3
Cole-Parmer® Cradle system for large orbital shaker (Replacement)	51700-95	SH-200	-	SSL1/1
Cole-Parmer® Rubber platform mat for large orbital shaker	51700-96	SH-200	-	SSL1/2

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**Cole-Parmer®**



## Cole-Parmer® Linear Shaker - SH-200D-R

- Linear shaking action – ideal for aeration applications
- Digital speed selection to 250rpm with soft start
- Built-in digital timer
- Reliable quiet drive mechanism
- Fully adjustable cradle system



Linear Shaker SH-200D-R



Linear Shaker SH-200D-R

## Cole-Parmer® Linear Shaker - SH-200D-R

The Cole-Parmer® linear shaker has a powerful yet quiet shaking mechanism that has been designed for problem free continuous use. Model SH-200D-R provides a linear reciprocating shaking action with an amplitude of 20mm and speed range of 20 to 250rpm, ideal for extractions. It can be used in environmental chambers and CO2 incubators.

The cradle type platform has four rubber cushioned horizontal securing bars with quick release handles. They can be easily adjusted both vertically and horizontally to hold most sizes and types of vessel, including flasks, bottles and beakers. For example, they will accommodate the following Erlenmeyer flasks or bottles: 12 x 250ml or 9 x 500ml or 4 x 1000ml or 2 x 2000ml. The main advantage of this cradle system is that it can accommodate different sizes of vessel, a common requirement where shakers are used by different people in the laboratory. Speed is fully variable and is set digitally for consistency. The speed is microprocessor controlled and accurately maintained even over long runs. A digital built-in timer allows shaking times from 1 to 999 minutes to be set. After the timer has counted down, the shaker stops and sounds an alert. Alternatively the unit can be set for continuous operation.

### Technical Specification

Specification	SH-200D-R
Platform dimensions (w x l)	335 x 335mm
Speed range 2	25 to 250 rpm
Orbit amplitude	20mm
Maximum load	10kg
Operational temperature range	+4 to +40°C
Maximum permissible humidity	80 percent
Overall dimensions (w x d x h)	360 x 420 x 270mm
Net weight	11kg
Electrical supply	120V, 60Hz, 50W 230V, 50Hz, 50W

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® Linear Recircating Shaker, Large, 230V, 50Hz	51901-02	SH-200	SH-200-D-R	SSL2
Cole-Parmer® Linear Recircating Shaker, Large, 120V, 60Hz	51901-03	SH-200	SH-200-D-R-120	SSL2/120V/60

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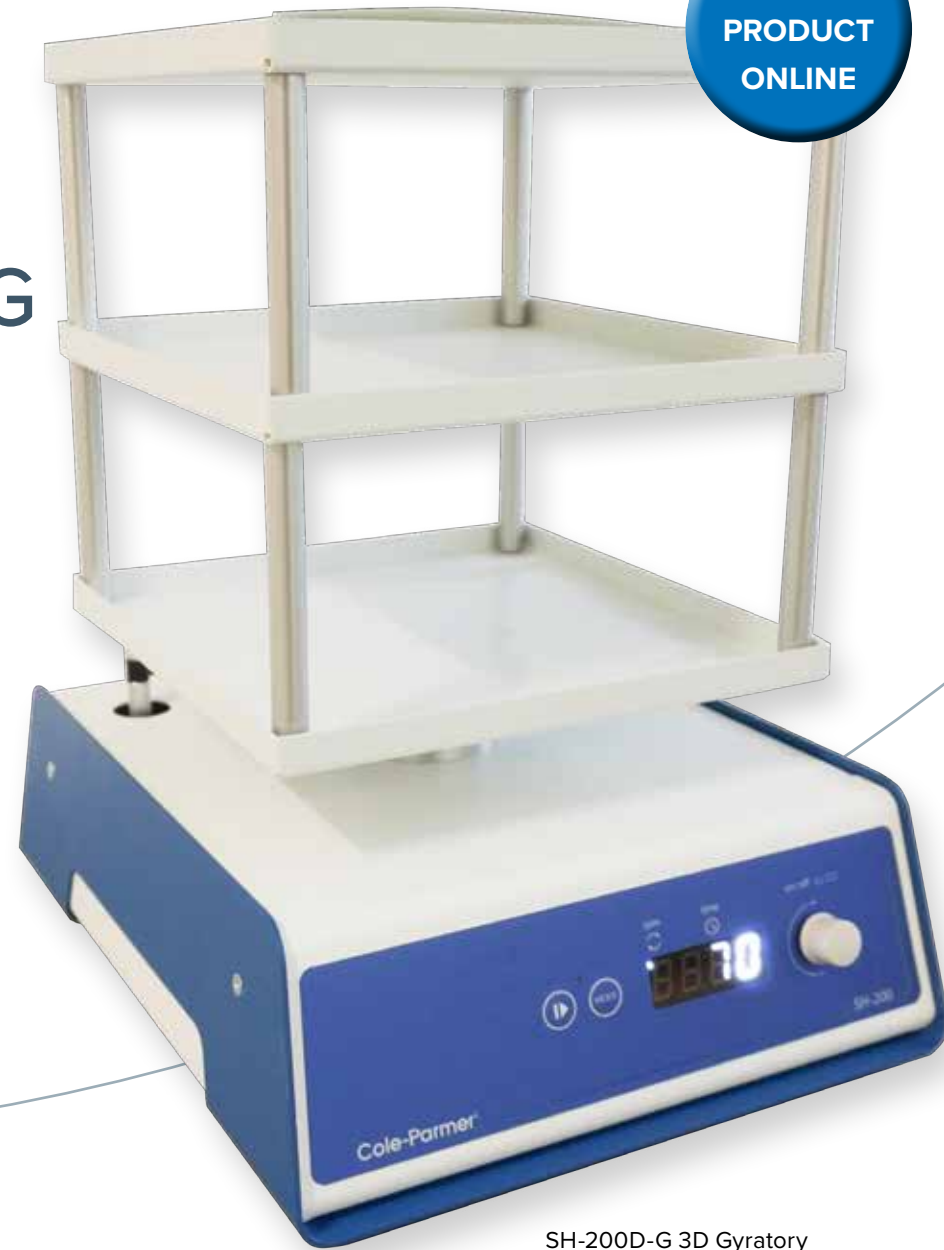
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**Cole-Parmer®**



## Cole-Parmer® Gyratory Rockers - SH-200D-G and SH-200D-G-L

- Large platform rockers – ideal for multiple users
- Gentle rocking action
- Choice of two models: 3D gyratory action SH-200D-G and SH-200D-G-L
- Digital speed control and built-in timer
- Optional tier system available to increase capacity (see main image)



SH-200D-G 3D Gyratory  
Rocker Mini, with tiering system  
(option)





SH-200D-G-L 3D Gyrotory Rocker Large

## Cole-Parmer® Gyrotory Rockers - SH-200D-G and SH-200D-G-L

These Cole-Parmer® rockers have large platforms able to accommodate multiple samples, ideal for a busy lab. They are very quiet in operation and designed to be on continuously. Two models are available: Model SH-200D-G (Mini size) and model Model SH-200D-G-L (Large size) provide a 3D gyrotory motion, ideal for low foaming agitation, DNA extractions, staining and de-staining procedures etc. The angle of tilt can be moved to any position by hand to optimise the mixing of vessels. Rockers are often used in conjunction with incubators and environmental chambers available from Cole-Parmer®. Both units can be used in temperatures up to 40°C and humidity up to 80%. Both models are supplied with a nonslip mat and have digital selection of both speed and time making them very easy to operate. An accessory tier system can be fitted in seconds, without the need for tools, tripling the available space for samples. Each tier is securely held in place by magnets.

### Technical Specification

Specification	SH-200D-G	SH-200D-G-L
<b>Rocking action</b>	3D gyrotory	3D gyrotory large
<b>Platform dimensions, mm (w x l)</b>	235 x 235mm	355 x 355mm
<b>Speed range</b>	5 to 70rpm	5 to 70rpm
<b>Angle of tilt</b>	3° to 12°	7°
<b>Angle adjustable</b>	Yes by hand	No
<b>Maximum load, kg</b>	3	10
<b>Dimensions, mm (w x d x h)</b>	240 x 300 x 165mm	360 x 420 x 170mm
<b>Tier height, mm</b>	125/tier	125/tier
<b>Operational temp. range</b>	+4 to +40°C	+4 to +40°C
<b>Maximum permissible humidity</b>	80%	80%
<b>Net weight, kg</b>	5	10
<b>Electrical supply</b>	230V, 50Hz, 50W	230V, 50Hz, 50W
<b>IP rating</b>	30	30

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® Gyro-rocker, mini	51901-12	SH-200	SH-200D-G	SSM3
Cole-Parmer® Gyro-rocker, mini 120V	51901-13	SH-200	SH-200D-G-120	SSM3/120V/60
Cole-Parmer® Gyro-rocker, large	51901-04	SH-200	SH-200D-G-L	SSL3
Cole-Parmer® Gyro-rocker, large 120V	51901-05	SH-200	SH-200D-G-L-120	SSL3/120V/60

### Accessories

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Tiering system (2 platforms plus 8 bars), mini	51700-93	SH-200	-	SSM3/1
Tiering system (2 platforms plus 8 bars), large	51700-94	SH-200	-	SSL3/1

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**Cole-Parmer®**

# Cole-Parmer®

## Cole-Parmer® See-saw Rockers - SH-200D-S, SH-200D-S-L

- Small space saving design - ideal for personal use
- Gentle See-saw rocking action
- Incubator safe
- Digital speed control and built-in timer
- Optional tier system available to increase capacity



SH-200D-S  
Mini See-saw Rocker





SH-200D-S-L See-saw Rocker

## Cole-Parmer® See-saw Rockers - SH-200D-S, SH-200D-S-L

- Small space saving design or laboratory sized unit
- Digital speed control and built-in timer
- Optional tier system available to increase capacity

The Cole-Parmer® models have a see-saw rocking action that creates a wave motion within vessels such as culture flasks, Petri dishes etc. Digital selection of both speed and time facilitates accurate and reproducible conditions. Both parameters are controlled via an easy to use control dial and displayed on the bright LED display.

Both models are supplied with a non-slip mat which holds flat based vessels securely in place during mixing. An accessory tier system can be fitted in seconds, without the need for tools, tripling the available space for samples. Each tier is securely held in place by magnets.

### Technical Specification

Specification	SH-200D-S	SH-200D-S-L
Rocking action	See-saw wave	See-saw wave
Platform dimensions (w x l)	235 x 235mm	355 x 355mm
Speed range	5 to 70rpm	5 to 70rpm
Angle of tilt	7°	7°
Maximum load	3kg	10kg
Overall dimensions (w x d x h)	240 x 300 x 150	360 x 420 x 170
Tier height, mm	125/tier	125/tier
Operational temp. range	+4 to +40°C	+4 to +40°C
Max. permissible humidity	80%	80%
Net weight	5kg	10kg
Electrical supply	120V, 60 Hz, 50W 230V, 50Hz, 50W	120V, 60 Hz, 50W 230V, 50Hz, 50W

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® See-saw rocker mini	51901-14	SH-200	SH-200D-S	SSM4
Cole-Parmer® See-saw rocker mini 120V	51901-15	SH-200	SH-200D-S-120	SSM4/120V/60
Cole-Parmer® See-saw rocker large	51901-06	SH-200	SH-200D-S-L	SSL4
Cole-Parmer® See-saw rocker large 120V	51901-07	SH-200	SH-200D-S-L-120	SSL4/120V/60

### Accessories

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® Tier system (2 platforms plus 8 bars)	51700-93	SH-200	SH-200D-S/SH200D-S/120	SSM3/1
Cole-Parmer® Tier system (2 platforms plus 8 bars)	51700-94	SH-200	SH-200D-S-L/SH200D-S-L/120	SSL3/1

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**Cole-Parmer®**

# Cole-Parmer®

## Cole-Parmer® See-saw Rockers - SH-200D-G, SH-200D-G-L

- Small space saving design - ideal for personal use
- Gentle rocking action
- 3D gyratory action SH-200D-G
- Digital speed control and built-in timer
- Optional tier system available to increase capacity



VISIT  
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SH-200D-S  
Mini See-saw Rocker



SH-200D-S-L See-saw Rocker

## Cole-Parmer® See-saw Rockers - SH-200D-S, SH-200D-S-L

- Small space saving design or laboratory sized unit
- Digital speed control and built-in timer
- Optional tier system available to increase capacity

The Cole-Parmer® models have a see-saw rocking action that creates a wave motion within vessels such as culture flasks, Petri dishes etc. Digital selection of both speed and time facilitates accurate and reproducible conditions. Both parameters are controlled via an easy to use control dial and displayed on the bright LED display.

Both models are supplied with a non-slip mat which holds flat based vessels securely in place during mixing. An accessory tier system can be fitted in seconds, without the need for tools, tripling the available space for samples. Each tier is securely held in place by magnets.

### Technical Specification

Specification	SH-200D-S	SH-200D-S-L
Rocking action	See-saw wave	See-saw wave
Platform dimensions (w x l)	235 x 235mm	355 x 355mm
Speed range	5 to 70rpm	5 to 70rpm
Angle of tilt	7°	7°
Maximum load	3kg	10kg
Overall dimensions (w x d x h)	240 x 300 x 150	360 x 420 x 170
Tier height, mm	125/tier	125/tier
Operational temp. range	+4 to +40°C	+4 to +40°C
Max. permissible humidity	80%	80%
Net weight	5kg	10kg
Electrical supply	120V, 60 Hz, 50W 230V, 50Hz, 50W	120V, 60 Hz, 50W 230V, 50Hz, 50W

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® See-saw rocker mini	51901-14	SH-200	SH-200D-S	SSM4
Cole-Parmer® See-saw rocker mini 120V	51901-15	SH-200	SH-200D-S-120	SSM4/120V/60
Cole-Parmer® See-saw rocker large	51901-06	SH-200	SH-200D-S-L	SSL4
Cole-Parmer® See-saw rocker large 120V	51901-07	SH-200	SH-200D-S-L-120	SSL4/120V/60

### Accessories

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® Tier system (2 platforms plus 8 bars)	51700-93	SH-200	SH-200D-S/SH200D-S/120	SSM3/1
Cole-Parmer® Tier system (2 platforms plus 8 bars)	51700-94	SH-200	SH-200D-S-L/SH200D-S-L/120	SSL3/1

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**Cole-Parmer®**



## Cole-Parmer® Tube Rollers, RS-200 and RS-200D

- Greater capacity and multiple rollers saves bench top space and meets standard lab throughput needs
- Featuring removable side panels
- Featuring detachable roller tubes enabling large volume/diameter bottles to fit
- Choice of analog or digital control
- Choice of fixed or variable speed



6 Tube Roller RS-200



# Cole-Parmer® Tube Rollers, RS-200 and RS-200D

Cole-Parmer® roller mixers provide a gentle but efficient mixing ideal for mixing blood samples, viscous substances and liquid-solid suspensions where minimum aeration is required. Cole-Parmer® is committed to providing the highest levels of usability and as such has added additional features to the roller mixers. RS-200 roller mixers now feature easy to remove side panels. The side panels provide the user with complete peace of mind that their sample will be mixed effectively during continued use. The side panels ensure the sample bottles do not slide off the mixer and therefore provide the highest levels of both safety and functionality.

The Cole-Parmer® roller tubes provide the highest levels of versatility allowing the roller mixers to conveniently detach to accommodate larger vessels and therefore allow the user to mix a wide variety of differently sized tubes and bottles.

## Ordering Information

Description	Ordering Number	Series Number	Model Number	Legacy Cole-Parmer® SKU	Legacy Stuart® SKU
Roller mixer, 6 rollers, analog control, fixed speed, 230V 50 Hz	51901-18	RS-200	RS-200	04653-02	SRT6
Roller mixer, 6 rollers, analog control, fixed speed, 120V, 60Hz	51901-19	RS-200	RS-200-120	04653-01	SRT6/120V/60
Roller mixer, 6 rollers, digital control, variable speed, 230V 50 Hz	51901-22	RS-200	RS-200D	04653-06	SRT6D
Roller mixer, 6 rollers, digital control, variable speed, 120V, 60Hz	51901-23	RS-200	RS-200D-120	04653-05	SRT6D/120V/60
Roller mixer, 9 rollers, analog control, fixed speed, 230V 50 Hz	51901-20	RS-200	RS-200-L	04653-04	SRT9
Roller mixer, 9 rollers, analog control, fixed speed, 120V, 60Hz	51901-21	RS-200	RS-200-L-120	04653-03	SRT9/120V/60
Roller mixer, 9 rollers, digital control, variable speed, 230V 50 Hz	51901-24	RS-200	RS-200D-L	04653-08	SRT9D
Roller mixer, 9 rollers, digital control, variable speed, 120V, 60Hz	51901-25	RS-200	RS-200D-L-120	04653-07	SRT9D/120V/60



6 Tube Roller RS-200D

## Technical Specification

Specification	RS-200	RS-200D
Number of rollers	6/9	6/9
Speed	33rpm	5 to 60rpm
Amplitude	16mm	16mm
Maximum load	3.0kg	3.0kg
Controls	Analog	Digital
Timer	No	Yes
Roller size (length x diameter)	340x30mm	340x30mm
Overall dimensions (w x d x h)	595x255x110mm 565x360x110mm	595x255x110mm 565x360x110mm
Net weight	5.1kg & 6.9kg	5.1kg & 6.9kg
Electrical Supply	230V, 50Hz, 50W 120V, 60Hz, 50W	230V, 50Hz, 50W 120V, 60Hz, 50W

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**Cole-Parmer®**



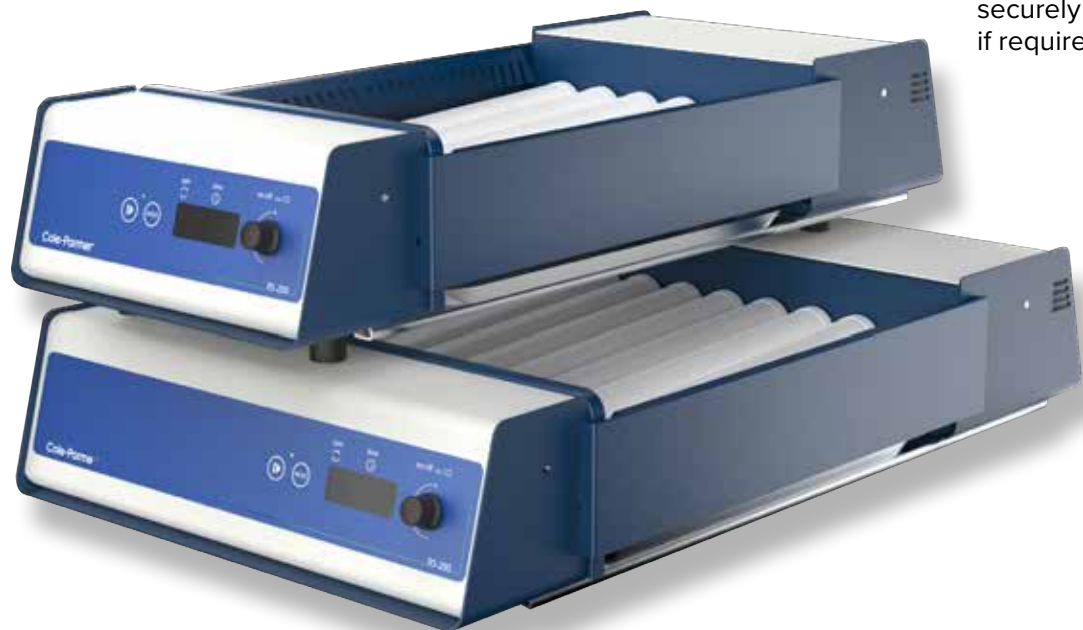
## Cole-Parmer® Tube Rollers Stack System

- For use with Tube Rollers System
- Allows up to 3 tube rollers to be stacked to save space and increase capacity
- Works by magnets - no need for any tools
- Fitted in minutes
- Easy to dismantle



# Cole-Parmer® Tube Rollers Stack System

Cole-Parmer® Tube Roller Stacking System consists of four magnetic stacking blocks that are designed to allow rollers to be stacked on top of one another, thus saving valuable bench space. Up to three rollers can be stacked in virtually any combination. Fitted in seconds, without any need for tools, the stacking blocks are easy to move into the optimum position where they hold the rollers securely in place by powerful magnets. They are equally as easy to dismantle if required for storage or cleaning purposes.



## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Stacking system for rollers (4 x stack blocks)	04653-09	RS200 RS200D	N/A	SRT/STACK

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**Cole-Parmer®**



## Cole-Parmer® Tube Rotators, TR-200 and TR-200D

- Adjustable angle of rotation mixes samples effectively with gentle or vigorous motion
- A variety of tube holder discs allows customization for your application
- Integrated drip tray prevents workspace spills

Variable Speed model TR-200D



# Cole-Parmer® Tube Rotators, TR-200 and TR-200D

These tube rotators feature an adjustable angle of rotation from horizontal for minimal mixing to vertical for full end-over-end mixing. An integrated drip tray prevents workspace spills from the rotating tubes and both units offer a choice of six tube holders for most applications. The tube holders can be removed and replaced quickly and easily. These tube rotators can use two tube holders simultaneously with our dual holder accessory (00077-23). The rotators can be used in incubators up to 60°C and in cold rooms down to 4°C.

## TR-200

- Gives gentle but effective mixing, ideal for keeping biological samples in suspension e.g., blood
- The rotator has a constant speed of 20rpm

## TR-200D

- Ideal for aerating cultures, keeping biological samples in suspension and for general mixing applications
- The rotator has a variable speed of 2 to 40rpm for gentle rolling or vigorous mixing of samples
- A digital timer and speed display allow procedures to be accurately repeated for optimal results
- Scale to measure mixing angle for future reference or continuity

Tube Rotator TR-200D



## Technical Specification

Specification	TR-200	TR-200-120	TR-200D	TR-200D-120
Width (mm)	225	225	225	225
Height (mm)	290	290	290	290
Depth (mm)	310	310	310	310
Weight (kg)	5.2	5.2	5.3	5.3

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Cole-Parmer® SKU	Legacy Stuart® SKU
Rotator, analog control, fixed speed, 230V 50 Hz	51901-26	TR-200	TR-200	07650-11	SB2
Rotator, analog control, fixed speed, 120V 60Hz	51901-27	TR-200	TR-200-120	07650-07	SB2/120V/60
Rotator, digital control, variable speed, 230V 50Hz	51901-28	TR-200	TR-200D	07650-13	SB3
Rotator, digital control, variable speed, 120V 60Hz	51901-29	TR-200	TR-200D-120	07650-17	SB3/120V/60







Tube Rotator Accessories

## Accessories

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
40 Micro tube holder, 10 - 11.5mm	00077-11	TR-200	N/A	SB3/1
20 Test/blood tube holder, 9 - 20mm	00077-15	TR-200	N/A	SB3/2
63 12mm Culture tube holder	00077-17	TR-200	N/A	SB3/4
36 16mm Culture tube holder	00077-19	TR-200	N/A	SB3/5
30 26mm Culture tube holder	00077-21	TR-200	N/A	SB3/6
Multiple tube holder accessory	00077-23	TR-200	N/A	SB2/DUAL
Spare clips for SB3/1 holder accessory	00077-25	TR-200	N/A	SB3/1/PC

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**Cole-Parmer®**



## Cole-Parmer® Colony Counter - CC-200

- Pressure sensitive counting
- Average count facility
- Bright white energy saving LED lighting
- With BioCote antimicrobial protection
- Audible count confirmation
- Choice of light or dark background
- Connectivity to printer or computer



# Cole-Parmer® Colony Counter - CC-200



Touch pressure with felt tip marker on petri dish registers cumulative count on the digital display with confirmation by audible tone (can be turned on or off). The pressure required to register a count can be adjusted to suit each user.

Averaging facility calculates average count over multiple plates. Counting results as well as useful statistics including SD can be sent directly to the accessory printer or to a computer via a USB cable supplied.

Sub-stage illumination by low energy bright LED's allows glare-free optimum viewing. A switchable black background is provided to enhance viewing of translucent and difficult to see colonies. Supplied with two Wolfhüegel graticules and dish centering adapters to facilitate use with 50mm to 90mm dishes. A choice of magnifiers and a printer are available as optional accessories.

## Technical Specification

Specification	CC-200
Lighting	White LED array
Digital display	3 digit LED
Count	0 to 999
Dimensions (w x d x h)	310 x 300 x 140mm
Net weight	1.5kg
Electrical supply	90 to 230V, 50/ 60Hz, 70W

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Colony counter, advanced	14212-04	CC-200	CC-200	SC6PLUS
Colony counter, advanced with IQ/OQ documentation	14212-06	CC-200	CC-200	SC6PLUS/IQOQ
1.7x magnifier	14212-60	CC-200	N/A	SC6/ 1
3x magnifier	14212-61	CC-200	N/A	SC6/ 1/ 3
Wolfhüegel graticule & segmentation discs (pack of 10)	99952-84	CC-200	N/A	SC6/ 2
Spare dish centering adaptors (pack of 2)	99952-85	CC-200	N/A	SC6/ 3
Spare receiving dish	99952-87	CC-200	N/A	SC6/ 5
Accessory Printer	03012-99	CC-200	N/A	SMP30/ 1

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**Cole-Parmer®**

## Cole-Parmer® Unheated Baths - WBU-200-8, WBU-200-12, WBU-200-18, WBU-200-26, WBU-200-48

- Stainless steel construction
- Seam-free and corrosion resistant stainless steel inners for easy cleaning
- Rugged splash-proof case
- Integrated carrying handle
- Maximum working temperature of 200°C
- All models come with a 3 year warranty as standard



Unheated Bath WBU-200-8

## Cole-Parmer® Unheated Baths - WBU-200-8, WBU-200-12, WBU-200-18, WBU-200-26, WBU-200-48

These Cole-Parmer® Unheated Baths are designed to be used with a clip-on Tempette or Tempunit® thermoregulator, these water baths incorporate carrying handles for added safety. All water baths have stoved enamelled steel outer cases and are supplied with bridge mounting plate to hold the thermoregulator.



Unheated Bath WBU-200-8



Unheated Bath WBU-200-12



Unheated Bath WBU-200-18



Unheated Bath WBU-200-26



Unheated Bath WBU-200-48

## Technical Specification

Specification	WBU-200-8	WBU-200-12	WBU-200-18	WBU-200-26	WBU-200-48
Capacity litres	8	12	18	26	48
Dimensions (mm) Length	265	354	530	530	594
Width (mm)	325	325	325	325	365
Height (mm)	172	172	172	222	298
Internal Dimensions Length (mm)	240	329	505	505	559
Width (mm)	300	300	300	300	330
Height (mm)	150	150	150	200	274
Top of bath to liquid level max depth (mm)	65	65	65	65	65
Working length to thermoregulator (mm)	115	205	380	380	430
Working depth - max/min (mm)	130/100	130/100	130/100	180/150	255/224
Working capacity - max/min (litres)	8.0/6.0	11.6/8.4	18.0/13.2	26.0/20.5	48.5/42.5
Shipping Weight	5.5kg	6.1kg	7.5kg	9.5kg	14.6kg

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® Stainless steel bath, 8 litre capacity	16104-53	WBU-200	WBU-200-8	FBATH08
Cole-Parmer® Stainless steel bath, 12 litre capacity	16101-88	WBU-200	WBU-200-12	FBATH12
Cole-Parmer® Stainless steel bath, 18 litre capacity	16112-01	WBU-200	WBU-200-18	FBATH18
Cole-Parmer® Stainless steel bath, 26 litre capacity	16101-89	WBU-200	WBU-200-26	FBATH26
Cole-Parmer® Stainless steel bath, 48 litre capacity	16104-45	WBU-200	WBU-200-48	FBATH48

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**Cole-Parmer®**



## Cole-Parmer® Liquid Calibration Baths, WBU-250-5 - WBU-250-7 - WBU-250-12

- -35°C to 250°C
- Three different capacities available; 5, 7 or 12 litres
- Temperature stability;  $\pm 0.005^{\circ}\text{C}$  depending on choice of control unit
- Fully insulated bath for excellent heat retention
- Analogue or digital temperature selection, depending on choice of control unit
- Includes cover, lid and bridging plate



Liquid Calibration Baths



# Cole-Parmer® Liquid Calibration Baths, WBU-250-5 - WBU-250-7 - WBU-250-12



The Cole-Parmer® liquid calibration bath (LCB) series offer compact, accurate and reliable liquid water baths which can be used for external circulation or temperature calibration of thermal sensors.

When temperature calibration is required the compact liquid baths offer excellent stability over the entire temperature range. The LCBs can also be used for external circulation to maintain temperatures of samples in viscometers, photometers, refractometers, fermenters and other reaction vessels.

All models of LCB offer high pump performance and exceptional thermal stability from -35°C to 250°C. The water baths are fully insulated on all sides and base and are fitted with a cooling coil for connection to a cold water supply for use at temperatures around ambient.

The minimum temperature achievable is -35°C when a Flow Cooler is added to the system.

Each bath is supplied complete with lid, drain tap, carry handles, a cooling coil (with bung) and hole to position a certified sensor.

Please note: for Liquid Calibration Baths to operate, a thermoregulator is required. The thermoregulator must be purchased separately because there are 4 models to choose from.

## Technical Specification

Specification	5 litre	7 litre	12 litre
Dimensions L x W x H (mm)	351 x 260 x 183	351 x 260 x 233	351 x 260 x 358
Bath opening (mm)	143.0 x 151.2	143.0 x 151.2	168.0 x 151.2
Working depth (mm)	125	175	300
Shipping Weight	5kg	6kg	9kg

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Cole-Parmer® LCB insulated liquid calibration bath with cooling coil, 5 litre capacity	16112-03	WBU-250	WBU-250-5	FBCAL05D
Cole-Parmer® LCB insulated liquid calibration bath with cooling coil, 7 litre capacity	16105-04	WBU-250	WBU-250-7	FBCAL07D
Cole-Parmer® LCB insulated liquid calibration bath with cooling coil, 12 litre capacity	16104-50	WBU-250	WBU-250-12	FBCAL12D

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**Cole-Parmer®**

## Cole-Parmer® Botanical Vacuum Ovens

- Process botanical extract faster and safer
- Oil-filled mechanical vacuum gauge offers accurate reading and longer operational life
- PID temperature controller provides accurate and reliable heating
- Built-in alarm alerts when oven shuts down for safety
- Rounded inner chamber corners offer easy cleaning
- Stainless steel inner chamber and powder-coated steel plate exterior resist corrosion for longer lifetime





# Cole-Parmer® Botanical Vacuum Ovens

Stainless steel internal tubing and compression fittings provide a higher ultimate vacuum ideal for botanicals and cannabis applications. Stainless steel vacuum and vent valves give you a cleaner connection, more accurate control, and long-term durability.

The 25- and 50-L models feature five-sided jacketed heating for effective heat dispensing. The 90- and 216-L models feature four heated shelves, individually monitored by the temperature controller, for uniform temperature to each shelf.

The ovens have an adjustable gas back fill capability with needle valve and vent port along with a KF25 vacuum and barbed purge port. Each unit includes stainless steel shelves, connecting vacuum pipes, and wrench; additional non-heated shelves can be ordered separately.

## Specifications

**Temperature resolution:** 0.1°C (0.1°F)

**Temperature uniformity:** ±10%

**Temperature stability:** ±0.1°C (±1.8°F)

**Temperature display:** LCD

**Timer range:** 0 to 99 hrs, 59 mins

**Vacuum range:** 0 to 29.9" Hg (133 Pa)

**Vacuum display:** dial gauge



Capacity cu ft (L)	Temperature range	Rise time to 100 °C	No. of shelves included	No. of shelf positions	Dimensions (W x H x D)		Power			Oven item number
					Chamber	Overall	VAC	Hz	Watts	
0.88 (25)	10°C above ambient to 100°C (50 to 212°F)	90 mins	4	8	11.8" x 10.8" x 11.8" (30 x 27.5 x 30 cm)	23.8" x 17.7" x 19.3" (60.5 x 45 x 49 cm)	120	60	550	ML-52411-22
							220	50/60		ML-52411-23
1.7 (50)	10°C above ambient to 100°C (50 to 212°F)	80 mins	6	11	16.3" x 13.5" x 14.5" (41.5 x 34.5 x 37 cm)	28.75" x 21.6" x 22" (73 x 55 x 56 cm)	120	60	650	ML-52411-24
							220	50/60		ML-52411-25
3 (90)	10°C above ambient to 200°C (50 to 392°F)	80 mins	4 (heated)	—	17.7" x 17.7" x 17.7" (45 x 45 x 45 cm)	29" x 23.2" x 24" (74 x 59.1 x 61 cm)	120	60	1050	ML-52411-26
							220	50/60		ML-52411-27
7.6 (216)	10°C above ambient to 200°C (50 to 392°F)	80 mins	4 (heated)	—	23.6" x 23.6" x 23.6" (60 x 60 x 60 cm)	35" x 29.2" x 30" (89 x 74.1 x 76 cm)	120	60	1960	ML-52411-28
							220	50/60		ML-52411-29

**ML-52411-49 Additional stainless steel shelf** for 0.88 cu ft (25 L) oven

**ML-52411-50 Additional stainless steel shelf** for 1.7 cu ft (50 L) oven

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Cole-Parmer®

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## Cole-Parmer® Gravity and Mechanical Convection Drying Ovens

- Low energy consumption provides operating cost savings
- PID controller gives you accurate and reliable temperature control
- Requires minimal heating time
- Easy-to-view LCD shows time, current and set temperatures, running status, and fan status
- Stainless steel inner chamber and powder-coated steel plate exterior resist corrosion for longer lifetime
- Rounded inner chamber corners offer easy cleaning
- Long-lasting silicone rubber gasket offers a tight seal, ensuring good heat retention and low energy consumption



Gravity convection oven



Mechanical convection oven

## Cole-Parmer® Gravity and Mechanical Convection Drying Ovens

Our gravity and mechanical convection drying ovens offer multiple safety features such as temperature deviation alarm, overtemperature set point alarm, overcurrent protection, and auto-start after power loss/return.

**Gravity convection** ensures gentle, natural, air circulation within the chamber—suitable for sterilization, powder drying, high-temperature storage, and other applications requiring subtle airflow. Able to heat samples up to 200°C (392°F).

**Mechanical convection** offers fast heat-up and uniform temperature throughout the chamber for greater drying efficiency. The mechanical oven has an air vent on the back that can be adjusted by the knob located in front of the oven to control inner air and vapor circulation—ideal for your drying and sterilization needs. Able to heat samples up to 250°C (482°F).

Each oven includes stainless steel shelves with mounting brackets. Additional shelves can be ordered separately (see table).

Gravity convection oven



Mechanical convection oven

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# Cole-Parmer® Gravity and Mechanical Convection Drying Ovens

## Specifications

### Temperature range:

Gravity: 10°C above ambient to 200°C (50 to 392°F)  
Mechanical: 10°C above ambient to 250°C (50 to 482°F)

### Display resolution: 0.1°C

Temperature control accuracy: ±0.5°C  
Timer range: 0 to 99 hrs, 59 min

### Rise time:

Gravity: 15 to 30 min to 100°C  
Mechanical: 20 to 50 min to 100°C



Capacity cu ft (L)	Temperature uniformity	No. of shelves included	No. of shelf positions	Dimensions (W x H x D)		Power			Oven	Additional shelf
				Chamber	Overall	VAC	Hz	Watts	Item number	Item number
Gravity convection ovens										
0.95 (27)	±3% at 100°C	2	6	12.6" x 14" x 11.8" (32 x 35.5 x 30 cm)	18" x 26" x 20.5" (46 x 66 x 52 cm)	120 220	60 50/60	850	ML-52411-00 ML-52411-01	ML-52411-36
1.97 (56)	±3% at 100°C	2	8	15.75" x 16.3" x 13" (40 x 41.5 x 33 cm)	21.2" x 28.3" x 21.6" (54 x 72 x 55 cm)	120 220	60 50/60	1000	ML-52411-02 ML-52411-03	ML-52411-37
3.4 (96)	±3.5% at 100°C	2	10	17.7" x 20" x 17" (45 x 50.5 x 43 cm)	23.2" x 32" x 25.5" (59 x 81 x 65 cm)	120 220	60 50/60	1400	ML-52411-04 ML-52411-05	ML-52411-38
5 (140)	±3.5% at 100°C	2	11	20.5" x 22.6" x 19.7" (52 x 57.5 x 50 cm)	26" x 34.6" x 28.3" (66 x 88 x 72 cm)	120 220	60 50/60	2000	ML-52411-06 ML-52411-07	ML-52411-39
7 (200)	±4% at 100°C	2	13	22.4" x 25" x 22" (57 x 64 x 56 cm)	28" x 37.2" x 30.7" (71 x 94.5 x 78 cm)	220	50/60	2200	ML-52411-08	ML-52411-40
Mechanical convection ovens										
0.56 (16)	±1.5% at 100°C	2	4	9.8" x 9.8" x 10" (25 x 25 x 26 cm)	20.8" x 16.3" x 14.8" (53 x 41.5 x 37.6 cm)	120 220	60 50/60	600	ML-52411-09 ML-52411-10	ML-52411-41
1 (30)	±2% at 100°C	2	5	13" x 12.5" x 12.5" (34 x 32 x 32 cm)	24.5" x 20" x 17.75" (62.2 x 50.5 x 45.1 cm)	120 220	60 50/60	850	ML-52411-11 ML-52411-12	ML-52411-42
1.7 (50)	±2.5% at 100°C	2	6	16.5" x 13.8" x 15.5" (42 x 35 x 39.5 cm)	27.5" x 21" x 20.8" (70 x 53.5 x 53 cm)	120 220	60 50/60	1100	ML-52411-13 ML-52411-14	ML-52411-43
2.8 (80)	±3% at 100°C	2	7	17.7" x 17.7" x 15.75" (45 x 45 x 40 cm)	29" x 24.2" x 20.5" (73.6 x 61.5 x 52.2 cm)	120 220	60 50/60	1550	ML-52411-15 ML-52411-16	ML-52411-44
4.8 (136)	±3% at 100°C	2	10	21.6" x 21.6" x 17.7" (55 x 55 x 45 cm)	32.75" x 28" x 22.8" (83.2 x 71.5 x 58.1 cm)	120 220	60 50/60	2050	ML-52411-17 ML-52411-18	ML-52411-45
7.8 (220)	±3% at 100°C	2	14	23.6" x 29.5" x 19.6" (60 x 75 x 50 cm)	34.6" x 36" x 24.8" (88 x 91.5 x 63 cm)	220	50/60	2450	ML-52411-19	ML-52411-46
14 (400)	±3.5% at 100°C	3	12	39.4" x 31.5" x 20" (100 x 80 x 51 cm)	50.5" x 41.7" x 29.5" (128.5 x 106 x 75 cm)	220	50/60	3100	ML-52411-20	ML-52411-47
22 (620)	±4% at 100°C	4	12	33" x 53.3" x 23.6" (84 x 135.5 x 60 cm)	38.5" x 74" x 31.5" (98 x 188 x 80 cm)	220	50/60	4000	ML-52411-21	ML-52411-48

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**Cole-Parmer®**

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## Cole-Parmer® Programmable Vacuum Ovens

- Easily manage up to eight programs with eight steps each
- PID temperature controller provides accurate and reliable temperature control
- Unit stops heater automatically if temperature is out of control
- Full-view window allows continuous monitoring
- Rounded inner chamber corners offer easy cleaning
- Rubber O-ring and door lock handle create a secure seal to prevent air leakage or unauthorized access
- Stainless steel inner chamber and powder-coated steel plate exterior resist corrosion for longer lifetime





## Cole-Parmer® Programmable Vacuum Ovens

Easily set up 8 programs for parameters such as temperature, time, and fan speed. Our ovens are designed with independent vacuum interface and vents, an air inlet for easy access to inert gases such as nitrogen, and a solenoid valve that controls vacuum degree and vacuum pump. Multiple safety features include temperature deviation alarm, overtemperature set point alarm, overcurrent protection, and auto-start after power loss/return.

Each oven includes stainless steel shelves with mounting brackets, connecting vacuum pipes, and wrench. Additional shelves can be ordered separately (see table).

### Specifications

**Temperature range:** 10°C above ambient to 200°C (50 to 392°F)

**Temperature resolution:** 0.1°C (0.1°F)

**Temperature uniformity:** ±10%

**Temperature stability:** ±0.1°C (±1.8°F)

**Temperature display:** LCD

**Timer range:** 0 to 99 hrs, 59 mins

**Vacuum range:** 0 to 29.9" Hg (133 Pa)

**Vacuum display:** dial gauge



Capacity cu ft (L)	Rise time to 100°C	No. of shelves included	No. of shelf positions	Dimensions (W x H x D)		Power			Oven	Additional shelf
				Chamber	Overall	VAC	Hz	Watts	Item number	Item number
0.85 (24)	90 mins	2	3	11.8" x 10.8" x 11.8" (30 x 27.5 x 30 cm)	17.5" x 24.4" x 22.8" (44.5 x 62 x 58 cm)	120	60	700	ML-52411-30	ML-52411-53
						220	50		ML-52411-31	
1.8 (53)	80 mins	2	5	16.3" x 13.5" x 14.5" (41.5 x 34.5 x 37 cm)	22.8" x 27.75" x 26" (58 x 70.5 x 67.5 cm)	120	60	1400	ML-52411-32	ML-52411-54
						220	50		ML-52411-33	
3.2 (91)	80 mins	3	6	17.7" x 17.7" x 17.7" (45 x 45 x 45 cm)	24" x 31.9" x 31.7" (61 x 81 x 80.5 cm)	120	60	2000	ML-52411-34	ML-52411-55
						220	50		ML-52411-35	

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**Cole-Parmer®**



## Cole-Parmer® Incubators - HI-200, HI-200D

- Accurate and precise incubators; temperature stability of  $\pm 0.1^{\circ}\text{C}$  within tubes
- Rotisserie shaker with adjustable rotational speed from 0 to 20 rpm
- Platform shaker with rocking speed up to 60 oscillation/minute
- Functional design with unique “slot-in” sample tubes
- Radioactive safe - protective casing and non-drip tubes
- Usability and recovery of low volumes of probes ( $\geq 5\text{ml}$ )
- Tubes and accessories can be assimilated for multiple uses
- Removable drip-tray for easy cleaning
- Adjustable feet for levelling on uneven surfaces





## Cole-Parmer® Incubators - HI-200, HI-200D

The Cole-Parmer® HI-200 and HI-200D incubators are ideal for nucleic acid hybridisation applications such as Northern, Southern, and Western blots in which RNA, DNA or protein are immobilised onto nylon or nitrocellulose filters.

### HI-200

The HI-200 incubator is a compact, stackable alternative to the HI-200. With a temperature range of 10°C above ambient to 100°C, the incubator offers excellent temperature accuracy and uniformity at an affordable price. Three ovens can be stacked to save valuable bench space and each unit can hold up to 16 mini or 4 large glass tubes.

### HI-200D

The HI-200D incubator is compact, easy to use, and provides complete protection from hybridisation hazards. The high-capacity unit can hold up to 24 mini tubes or 6 large ones, with temperature ranging between 10°C above ambient to 80°C. The double-glazed glass door provides durable protection, quiet and safe operation, minimising risk to the user.

### Technical Specification

Specification	HI-200	HI-200D
Maximum glass tube capacity	16 mini tubes	24 mini tubes
Maximum temperature	80°C	100°C
Minimum temperature	10°C above ambient	10°C above ambient
Adjustable rotation speed	0, 5 to 20 rpm	0, 5 to 20 rpm
Adjustable rocking platform	5-20 or 15-60 opm	5-20 or 15-60 opm
Stability in chamber	1.0°C	1.0°C
Stability in tubes	±0.1°C	±0.1°C
Uniformity in chamber	±1.5°C	±1.5°C
Uniformity in tube	±0.5°C	±0.5°C
Temperature set point resolution	0.1°C	0.1°C
Absolute accuracy	±0.3°C	±0.3°C
Dimensions L x W x H (mm)	355 x 383 x 432	285 x 385 x 555
Voltage	230V, 50-60Hz	230V, 50-60Hz
Power	750W	750W
Shipping Weight	21kg	24kg

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
HI-200 hybridisation incubator, 120V (including 3 large tubes FHB12)	39455-01	HI-200	HI-200D-HC-T-120	FHB1DB
HI-200 hybridisation incubator, 230V	39455-02	HI-200	HI-200D-HC	FHB1DE
HI-200 hybridisation incubator, 230V (including 3 large tubes FHB12)	39455-03	HI-200	HI-200D-HC-T	FHB1DG
HI-200D hybridisation incubator, 230V	39455-04	HI-200	HI-200	FHB4DD
HI-200D hybridisation incubator, 230V (including 4 large tubes FHB16)	39455-06	HI-200	HI-200-T	FHB4DDT
HI-200D hybridisation incubator, 120V	39455-07	HI-200	HI-200-120	FHB4DP
HI-200D hybridisation incubator, 120V (including 4 large tubes FHB16)	39455-08	HI-200	HI-200-T-120	FHB4DPT



# Cole-Parmer®

## Incubators HB-3D and HB-1D accessories

### Ordering Information

Description	Ordering Number	HI-200	Ordering Number	HI-200D
Tube carrier with clips to hold 16 x 15ml tubes	39455-29	F15ML4TH	39455-28	F15ML1TH
Tube carrier with clips to hold 8 x 50ml tubes	39455-31	F50ML4TH	39455-34	F50ML1TH
*Tube carrier with clips to hold 4 x mini 32mm tubes	39455-24	FHB61	39455-18	FHB43
Rocking platform 0-60opm	39455-16	FHB4PLAT	39455-09	FHB1PLAT
Stainless steel mesh shelf	39455-22	FHB4SH1	39455-26	FHB5H1
Large (80mm) glass tube with end caps	39455-13	FHB16	39455-11	FHB12
Small (44mm) glass tube with screw caps	39455-15	FHB36	39455-14	FHB32
**Mini (32mm) glass tubes with screw caps (pack of 4)	39455-17	FHB41	39455-17	FHB41

\*39455-27 glass tubes require this mini tube carrier.

\*\*Requires mini tube holder.



### Ordering Information

Description	Ordering Number	Legacy Sku.
Membrane separators 20 x 20cm (pack of 5)	39455-32	FMEM2020
Tube rack holder for HI-200 and HI-200D, three large/three small tubes	39455-27	FHTRACK
HI-200 incubator wall fixing kit	39455-23	FHB4WALL
Complete kit for stacking 3 HI-200 units	39455-19	FHB4DKIT
HI-200 incubator stacking kit (secures two units)	39455-21	FHB4DSTK



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**Cole-Parmer®**

## Cole-Parmer® Stuart™ Incubator - INC-200, INC-200D

- Incubation of complete instruments
- Choice of analogue or digital temperature control
- Easy access to working chamber
- Full visibility of samples
- Suitable for multiple applications



Incubator INC-200





Incubator INC-200D

## Cole-Parmer® Stuart™ Incubator - INC-200, INC-200D

The Cole-Parmer® Stuart™ INC-200 & INC-200D Incubators are suitable for multiple applications such as plant propagation, humidity testing, climactic condition simulation, corrosion testing and more.

Forced air circulation and electronic control ensures accurate temperature conditions. A pre-set push switch automatically sets the temperature at 37°C, while a safety feature cuts off heating if the unit reaches 72°C or higher.

Temperature is set via a calibrated knob for the analogue model (INC-200), and via an LCD display when using the digital model (INC-200D). The latter not only allows more accurate temperature management but also gives a constant reading of actual temperature when in use.

The purpose-built design offers easy access to samples - a hinged front door panel and plugged holes (2 x 10mm diameter) on each of the side panels for the introduction of gases or cables. The clear acrylic® polymer construction also allows total sample visibility at all times.

### Technical Specification

Specification	INC-200/INC-200D
Temperature range	Ambient +5°C to 60°C
Temperature fluctuation at 37°C	±0.1°C
Temp. variation between shelves	±0.3°C
Nominal volume	60 litres
Internal dimensions, mm (w x d x h)	450 x 380 x 380
Overall dimensions, mm (w x d x h)	600 x 390 x 390
Net weight, kg	11.2
Electrical supply	230V, 50Hz, 350W
IP Rating	30

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Acrylic incubator analogue	01110-02	INC-200	INC-200	SI60
Acrylic incubator analogue 120V/60HZ	01110-00	INC-200	INC-200-120	SI60/120V/60
Acrylic incubator digital	01110-08	INC-200	INC-200D	SI60D
Acrylic incubator digital 120V/60HZ	01110-04	INC-200	INC-200D-120	SI60D/120V/60

### Accessories

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Acrylic base plate	01110-97	INC-200	N/A	5160/1
Plastic coated shelf/rack system with two shelves	01110-98	INC-200	N/A	5160/2

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**Cole-Parmer®**

## Cole-Parmer® Stuart™ Microplate Shaking Incubator - SI-200D-M

- Incubator with shaker
- Ideal for microplates and microtubes
- Integrated timer
- Digital display for temperature and speed
- Optimised performance to minimise sample evaporation
- Retractable platform for easy loading and unloading
- Three year warranty





# Cole-Parmer® Stuart™ Microplate Shaking Incubator - SI-200D-M

The Cole-Parmer® Stuart™ SI-200D-M incubators have specifically been designed for adequately mixing small volumes of liquids in a temperature-controlled environment. The high-speed shaking action at 250 and 1250rpm, with a tight orbit of 1.5mm, is ideal for microtitre plates and microtubes.

The units feature a microprocessor controller and an LED control panel that allow independent control of speed and temperature, as well as a timer that can be set for any duration from 1 second to 9 days. Careful control of the air distribution within the incubator ensures temperature uniformity, between +7°C to +60°C, throughout the sample chamber.

A retractable platform facilitates easier access to samples at the back of the incubator. During operation it remains securely locked in place. The non-slip mat ensures up to four microtitre plates can comfortably and securely be accommodated at the same time; tube racks for all common tube can sizes are also available for the units.

Strategically placed stainless steel water trays ensures up to 80% humidity, preventing sample evaporation and damage over extended periods of incubation. The built-in USB connection allows the units to be connected to a PC for long term temperature monitoring.

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Microtitre plate shaker incubator	79520-10	SI-200	SIM-200D-M	SI505
Microtitre plate shaker incubator 120V/60HZ	79520-08	SI-200	SIM-200D-M-120	SI505/120/60
Microtitre plate shaker incubator with IQOQ document	79520-12	SI-200	SIM-200D-M	SI505/IQOQ

## Accessories

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Tube holder for 1.5ml tubes	51900-97	SI-200	N/A	SSM5/1
Tube holder for 0.5ml tubes	51900-98	SI-200	N/A	SSM5/2
Tube holder for 0.2ml tubes	51900-99	SI-200	N/A	SSM5/3

## Technical Specification

Specification	SI-200D-M
Temperature range	Ambient + 7°C to 60°C
Samples	4 x Microtitre plate or 2 x microtube racks
Temperature display resolution	0.1°C
Temperature fluctuation	± 0.5°C at 37°C
Temperature variation	<0.6°C at 37°C
Temperature precision	± 0.5°C at 37°C
Speed range	250 to 1250rpm
Speed control	Digital set in 10rpm increments
Timer	min/sec, hour/min, days/hours
Orbit diameter, mm	1.5
Platform size, mm	220 x 220
Relative humidity	~80% (using water trays)
Internal dimensions, mm (w x d x h)	307 x 300 x 190
Maximum load, kg	1
Overall dimensions, mm (w x d x h)	361 x 405 x 430
Net weight, kg	22.5
Heater power, W 200W	200W
Electrical supply	120V, 60Hz, 250W and 230V, 50Hz, 250W
IP Rating	31

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**Cole-Parmer®**

## Cole-Parmer® Stuart™ Hybridisation Incubator and Shaker Oven - INC-200D-H

- Versatile hybridisation incubator
- Precise and accurate temperature control
- Dual motion - rotisserie and rocker in one unit
- Easy access to samples - up-and-over door
- Advanced safety features
- Compact design





INC-200H with hybridisation bottles with PTFE screwcaps

# Cole-Parmer® Stuart™ Hybridisation Incubator and Shaker Oven - INC-200D-H

The Cole-Parmer® Stuart™ INC-200D-H hybridisation incubator & shaker oven is ideal for nucleic acid hybridisation applications, such as Northern, Southern, and Western blots.

Temperature is accurately set using the intuitive encoder controls and continuously displayed by LED. Forced air circulation combined with microprocessor control ensure outstanding temperature uniformity.

The compact incubator comes with two built-in shakers - a rotisserie shaker with adjustable rotational speed of 2 to 10 rpm and a platform shaker with adjustable rocking speed of 5 to 70 oscillations/minute.

The built-in safety features offer protection from overheating; the system automatically tracks the temperature, adjusts the heater, and cuts off power to the motor in the event of a fault.

A purpose-built design offers unobstructed access to samples with an up-and-over door, while stainless-steel interior allows for easy cleaning, and double-glazed panel of smoked acrylic and polycarbonate door provides radiation protection.

## Technical Specification

Specification	INC-200D-H
Nominal capacity	20 litres
Temperature range	Ambient + 8°C to 80°C
Temperature fluctuation (at 37°C)	±0.1°C
Temperature variation	±0.5°C
Display type	LED
Display resolution	0.1°C
Number of rotisseries	1
Rotational speed range	2 to 10rpm
Rocker speed range	5 to 70 oscillations / minute
Internal dimensions, mm (w x d x h)	286 x 230 x 200
Overall dimensions, mm (w x d x h)	380 x 380 x 435
Net weight, kg	24
Electrical supply	230V, 50Hz, 350W
IP Rating	30

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
*Hybridisation oven/shaker	39454-05	INC-200	INC-200D-H	SI30H
*Hybridisation oven/shaker 120/60HZ	39454-00	INC-200	INC-200D-H-120	SI30H/120V/60
Spare rotisserie for 7 x 40mm diameter bittles (holds 6 plus 1 in the centre)	39454-95	INC-200	N/A	SI20H/1
Accessory rotisserie for 2 x 75mm diameter bottles	39454-96	INC-200	N/A	SI20H/2

\*Supplied with 7x40mm OD bottle rotisserie 39454-95



Hybridisation bottles for use in incubators

## Cole-Parmer® Stuart™ Hybridisation bottles

Bottle hybridisation minimises probe volumes, reduces reagent volumes and enhances signal intensity. Made from Pyrex® borosilicate glass Stuart® hybridisation bottles are robust and can easily withstand the temperatures of the most rigorous hybridisation techniques. The thermoplastic polyester caps are very rigid and will not distort during repeated heating in the incubator which can lead to leakage. The seal is made by a PTFE faced insert that covers the entire inside of the cap making very good contact with the glass thread. Available in three sizes, each bottle comes complete with cap and a care leaflet.

### Ordering Information

Description	Ordering Number	Model No.	Overall length	O.D.	I.D.	Wall thickness
*Hybridisation Bottle	39454-97	SI20H/3	260mm	40mm	33.6mm	3.2mm
**Hybridisation Bottle	39454-98	SI20H/4	260mm	75mm	68.6mm	3.2mm
*Hybridisation Bottle	39454-99	SI20H/5	170mm	40mm	33.6mm	3.2mm

Note: Hybridisation bottles are suitable to be autoclaved  
 \*39454-97 and 39454-99 to be used with rotisserie 39454-95  
 \*\*39454-98 to be used with rotisserie 39454-96

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## Cole-Parmer® Stuart™ Microplate Incubator - INC-200D-M

- Incubator with precise and accurate temperature control
- Ideal for microtitre plates and petri dishes
- Laminar flow air circulation for even temperature distribution
- Digital setting and display of temperature
- Retractable platform for easy loading and unloading
- Convenient upward opening door
- Built-in water tray prevents samples evaporation
- Compact unit





## Cole-Parmer® Stuart™ Microplate Incubator - INC-200D-M

The Cole-Parmer® Stuart™ INC-200D-M microplate incubator is specially designed for microtitre plates and petri dishes. Forced air circulation blows preheated air across the shelves, rather than through them, for uniform temperature distribution.

Strategically placed stainless-steel water trays increase humidity, preventing sample evaporation and damage over extended periods of incubation. The purpose-built design also offers unobstructed access to samples with an upwards opening acrylic door, and a stainless-steel chamber with four easy-slide shelves, each accommodating 6 to 12 plates.

The built-in safety feature protects the units from overheating; the system automatically tracks temperature and adjusts heater in the event of a fault.

Temperature can be quickly set and viewed on a bright LED display, which is replaced by an error message in the event of a temperature excursion.

### Technical Specification

Specification	INC-200D-M
Nominal capacity	20 litres
Temperature range	Ambient + 8°C to 80°C
Temperature fluctuation (at 37°C)	±0.5°C
Temperature variation	±0.5°C
Display type	LED
Display resolution	0.1°C
Internal dimensions, mm (w x d x h)	250 x 230 x 200
Overall dimensions, mm (w x d x h)	380 x 380 x 435
Net weight, kg	24
Electrical supply	230V, 50Hz, 280W
IP Rating	30

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Incubator, 20L	39065-15	INC-200	INC-200D-M	SI19
Incubator, 20L 120V/60HZ	39065-10	INC-200	INC-200D-M-120	SI19/120V/60

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## Cole-Parmer® Stuart™ Shaking Incubator - SI-200D, SI-200D-L

- Incubator with shaker
- Integrated timer
- Digital display for temperature and speed
- Retractable platform for easy loading and unloading
- Optimised performance to minimise sample evaporation
- Communications enabled for external temperature measurement
- Comes in two sizes - 51 L and 115 L
- Three year warranty





## Cole-Parmer® Stuart™ Shaking Incubator - SI-200D, SI-200D-L

The Cole-Parmer® Stuart™ SI-200D and SI-200DL range of incubators, with integrated shakers, are ideal for cell culturing procedures, especially suspension culture applications. The compact units feature a microprocessor controller and an LED control panel that allow independent control of speed and temperature, as well as a timer that can be set for any duration from 1 second to 9 days. Forced air circulation within the incubator ensures temperature uniformity, between +5°C and +60°C throughout the sample chamber. A retractable platform facilitates easier access to samples at the back of the incubators. Both models have a versatile clamping system, for common flask sizes - up to 1 L on the SI-200D and 2 L on the SI-200D-L. A wide range of stainless-steel accessory racks are also available for smaller sample tubes - 1.5ml, 15ml and 50ml. Accessory racks are held to the shaking platform by a Magnalock system, to ensure quick and easy coupling and de-coupling. The incubators feature smoked acrylic windows to allow easy visibility of the samples and the compact design ensures the units do not take up much space on the lab bench. The built-in USB connection with dedicated software allows long term temperature monitoring.

### Technical Specification

Specification	SI-200D	SI-200D-L
Temperature range	Ambient +5 - 60°C	Ambient +5 - 60°C
Temperature display resolution	0.1°C	0.1°C
Temperature precision	± 0.5°C	± 0.5°C
Temperature fluctuation	± 0.5°C	± 0.5°C
Temperature variation	<0.5°C	<0.5°C
Speed range, rpm	30 to 300 rpm	30 to 300 rpm
Orbit diameter, mm	16	16
Platform size, mm	335 x 335	526 x 390
Capacity, L	51	115
Internal dimensions (w x d x h), mm	422 x 408 x 297	623 x 465 x 395
Maximum vessel height, mm	250	300
Maximum load, kg	10	10
Overall dimensions (w x d x h), mm	450 x 474 x 522	675 x 542 x 642
Net weight, kg	30	55
Heater power	250W	400W
Electrical supply	230V, 50Hz, 300W	230V, 50Hz, 450W

### Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
Incubator orbital shaker	79520-04	SI-200	SI-200D	SI500
Incubator orbital shaker 120V/60HZ	79520-00	SI-200	SI-200D-120	SI500/120/60
Incubator orbital shaker with IQOQ document	79520-06	SI-200	SI-200D	SI500/IQOQ
Incubator orbital shaker	79520-16	SI-200	SI-200D-L	SI600
Incubator orbital shaker 120V/60HZ 120V/60HZ	79520-14	SI-200	SI-200D-L-120	SI600/120V/60
Incubator orbital shaker with IQOQ document	72520-18	SI-200	SI-200D-L	SI600/IQOQ

### Accessories

Description	Ordering Number	Series No.	Legacy Sku.
Tube rack, 1.5ml x 64 microtubes	79520-96	SI-200	SI500/1
Tube rack, 15ml x 25 centrifuge tubes	79520-97	SI-200	SI500/2
Tube rack, 50ml x 12 centrifuge tubes	79520-98	SI-200	SI500/3
Tube rack, 30ml x 16 universal containers	79520-99	SI-200	SI500/4

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## Cole-Parmer® Heating and Stirring Electromantles SHM-200

- Accepts round bottom flasks from 50ml to 2 litres capacity
- Bi-directional stirring speeds up to 520rpm
- Stir bar “auto-recapture” function
- “Cool-to-touch” design
- Maximum element temperature 450°C
- Built-in energy regulator
- Replaceable insulated heater cartridge
- A chemically resistant polypropylene outer casing
- Bracket for 1.3cm support rods (but not including the support rods)



## Technical Specification

Specification	SHM-200-50, SHM-200-100, SHM-200-250	SHM-200-500, SHM-200-1000	SHM-200-2000
Flask capacity	50 - 250ml	500 - 1000ml	2000ml
Material	Polypropylene outer case	Polypropylene outer case	Polypropylene outer case
Max element temperature	450°C	450°C	450°C
Dimensions (d x w x h), mm	260 x 175 x 133	310 x 238 x 157	400 x 350 x 197
Shipping weight, kg	1.73	2.75	5.68

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
50ml, 230v 50 / 60Hz, 80w UK and EU plug	04641-05	SHM-200	SHM-200-50	EMA0050/CEB
50ml, 115v 50 / 60Hz, 96w	04641-00	SHM-200	SHM-200-50-115	EMA0050/CEBX1
100ml, 230v 50 / 60Hz, 80w UK and EU plug	04641-15	SHM-200	SHM-200-100	EMA0100/CEB
100ml, 115v 50 / 60Hz, 96w	04641-10	SHM-200	SHM-200-100-115	EMA0100/CEBX1
250ml, 230v 50 / 60Hz, 170w UK and EU plug	04641-25	SHM-200	SHM-200-250	EMA0250/CEB
250ml, 115v 50 / 60Hz, 210w	04641-20	SHM-200	SHM-200-250-115	EMA0250/CEBX1
500ml, 230v 50 / 60Hz, 220w UK and EU plug	04641-35	SHM-200	SHM-200-500	EMA0500/CEB
500ml, 115v 50 / 60Hz, 270w	04641-30	SHM-200	SHM-200-500-115	EMA0500/CEBX1
1000ml, 230v 50 / 60Hz, 320w UK and EU plug	04641-45	SHM-200	SHM-200-1000	EMA1000/CEB
1000ml, 115v 50 / 60Hz, 400w	04641-40	SHM-200	SHM-200-1000-115	EMA1000/CEBX1
2000ml, 230v 50 / 60Hz, 520w UK and EU plug	04641-55	SHM-200	SHM-200-2000	EMA2000/CEB
2000ml, 115v 50 / 60Hz, 595w	04641-50	SHM-200	SHM-200-2000-115	EMA2000/CEBX1

# Cole-Parmer® Heating & Stirring Electromantles - SHM-200

The Cole-Parmer® SHM-200 Electromantle shares all the features of the standard HM-200 Electromantle, but has the added functionality of magnetic stirring. The solid state stirring circuitry is built into the base of the main housing and provides powerful stirring over a range of capacities and viscosities. The stir bar is seldom lost due to our “auto-recapture” function.

## Magnetic Stirring

The SHM-200 Electromantle has the added functionality of stirring which widens the range of applications. Stirring operation is simply achieved by placing the correct size stir bar into the flask, turning the stir control to the minimum speed and ramping up slowly. If the magnetic coupling to the stir bar is lost for any reason, the stir speed control should be reduced slightly and the auto-recapture switch can be activated.



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**Cole-Parmer®**



## Cole-Parmer® Electromantles - HM-200

- Chemically resistant polypropylene outer casing
- Use with round bottom flasks from 50mL to 5L
- Unique ventilation system which allows outer casing to remain safe to touch
- Maximum element temperature 450°C
- Model HM-200-5000 has 2 circuits for upper and lower level heating
- A grounded earth screen and double fuses for extra safety
- Supplied with bracket for 1.3cm diameter support rods (but not including support rods)



## Technical Specification

Specification	HM-200-50, HM-200-100, HM-200-250	HM-200-500, HM-200-1000	HM-200-2000, HM-200-3000, HM-200-5000
Flask capacity	50 - 250mL	500- 1000mL	2000- 5000mL
Material	Polypropylene outer case	Polypropylene outer case	Polypropylene outer case
Max element temperature	450°C	450°C	450°C
Dimensions (d x w x h), mm	260 x 175 x 127	310 x 238 x 145	400 x 350 x 190
Shipping weight, kg	0.78	1.25	2.58

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
50mL, 230v 50 60Hz, 60w UK and EU plug	36002-02	HM-200	HM-200-50	EM0050/CE
50mL, 115v 50 60Hz, 70w	36002-00	HM-200	HM-200-50-115	EM0050/CEX1
100mL, 230v 50 60Hz, 60w UK and EU plug	36002-06	HM-200	HM-200-100	EM0100/CE
100mL, 115v 50 60Hz, 70w	36002-04	HM-200	HM-200-100-115	EM0100/CEX1
250mL, 230v 50 60Hz, 150w UK and EU plug	36002-10	HM-200	HM-200-250	EM0250/CE
250mL, 115v 50 60Hz, 150w	36002-08	HM-200	HM-200-250-115	EM0250/CEX1
500mL, 230v 50 60Hz, 200w UK and EU plug	36002-14	HM-200	HM-200-500	EM0500/CE
500mL, 115v 50 60Hz, 200w	36002-12	HM-200	HM-200-500-115	EM0500/CEX1
1000mL, 230v 50 60Hz, 300w UK and EU plug	36002-18	HM-200	HM-200-1000	EM1000/CE
1000mL, 115v 50 60Hz, 300w	36002-16	HM-200	HM-200-1000-115	EM1000/CEX1
2000mL, 230v 50 60Hz, 500w UK and EU plug	36002-22	HM-200	HM-200-2000	EM2000/CE
2000mL, 115v 50 60Hz, 500w	36002-20	HM-200	HM-200-2000-115	EM2000/CEX1
3000mL, 230v 50 60Hz, 500w UK and EU plug	36002-26	HM-200	HM-200-3000	EM3000/CE
3000mL, 115v 50 60Hz, 500w	36002-24	HM-200	HM-200-3000-115	EM3000/CEX1
5000mL, 230v 50 60Hz, 800w UK and EU plug	36002-30	HM-200	HM-200-5000	EM5000/CE
5000mL, 115v 50 60Hz, 800w	36002-28	HM-200	HM-200-5000-115	EM5000/CEX1

## Cole-Parmer® Electromantles - HM-200

The Cole-Parmer® HM-200 series Electromantles are manufactured to the highest quality in our UK manufacturing facility. Each mantle is made with extreme care and is hand sewn to assure its reliability, quality and safety. Maximum heat transfer to the sample is achieved by having excellent insulation around the cartridge and good flask coverage. All Electrothermal mantles go through the 'burn off' procedure at the end of the manufacturing process enabling use straight out of the box.

Designed with flexibility and ease of use in mind, the HM-200 series heating mantle is a reliable workhorse for your heating applications in the laboratory. All HM-200 Electromantles have a built-in energy regulator with indicator lamps for power and heater operation. All mantles have support rod clamps as an integral feature and incorporate a grounded earth screen and double fuses for added safety. Larger capacity products have multiple heating elements, enabling a more even and directed transfer of heat.



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## Cole-Parmer® V-Shaped and Spill Proof Electromantles HM-200

- Bottom opening accommodates round bottom and pear-shaped flasks and 60° funnels of various diameters
- Capacity between 10mL to 5L
- Coiled heating element, suspended within a thermal insulating cartridge, provides maximum heat transfer and support
- “Cool-to-touch” outer casing
- Maximum element temperature 450°C
- Chemically resistant polypropylene outer casing
- Bracket for 1.3cm support rods (not included)



HM-200-V  
Electromantle



HM-200-SP  
Electromantle

## Technical Specification

Specification	HM-200-V-50	HM-200-V-250	HM-200-V-1000, HM-200-SP-1000	HM-200-V-5000, HM-200-SP-5000
Flask capacity	10 - 50mL	100 - 250mL	500 - 1000mL	2000 - 5000mL
Funnel Sizes	50 - 75mm	75 - 100mm	100 - 200mm	200 - 300mm
Max element temperature	450°C	450°C	450°C	450°C
Dimensions (d x w x h), mm	260 x 175 x 127mm	260 x 175 x 127mm	310 x 238 x 145mm	400 x 350 x 190mm
Shipping weight, kg	0.78kg	0.78kg	2.76kg	5.96kg

## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
10 to 50mL, 230V 50 / 60Hz, 60w UK and EU plug	36104-05	HM-200	HM-200-V-50	EMV0050/CE
10 to 50mL, 115V 50 / 60Hz, 75w	36104-00	HM-200	HM-200-V-50-115	EMV0050/CEX1
100 to 250mL, 230V 50 / 60Hz, 150w UK and EU plug	36104-15	HM-200	HM-200-V-250	EMV0250/CE
100 to 250mL, 115V 50 / 60Hz, 150w	36104-10	HM-200	HM-200-V-250-115	EMV0250/CEX1
500 to 1000mL, 230V 50 / 60Hz, 300w UK and EU plug	36104-25	HM-200	HM-200-V-1000	EMV1000/CE
500 to 1000mL, 115V 50 / 60Hz, 300w	36104-20	HM-200	HM-200-V-1000-115	EMV1000/CEX1
2000 to 5000mL, 230V 50 / 60Hz, 800w UK and EU plug	36104-35	HM-200	HM-200-V-5000	EMV5000/CE
2000 to 5000mL, 115V 50 / 60Hz, 800w	36104-30	HM-200	HM-200-V-5000-115	EMV5000/CEX1

500 to 1000mL, 230v 50/ 60Hz, 240w UK and EU plug	36101-05	HM-200	HM-200-SP-1000	EMX1000/SCE
500 to 1000mL, 115v 50/ 60Hz, 240w	36101-00	HM-200	HM-200-SP-1000-115	EMX1000/SCEX1
2000 to 5000mL, 230v 50/ 60Hz, 600w UK and EU plug	36101-15	HM-200	HM-200-SP-5000	EMX5000/SCE
2000 to 5000mL, 115v 50/ 60Hz, 600w	36101-10	HM-200	HM-200-SP-5000-115	EMX5000/SCEX1

## Cole-Parmer® V-Shaped and Spill Proof Electromantles HM-200

The Cole-Parmer® HM-200-SP spill-proof Electromantles and HM-200 V-shaped Electromantles may accommodate 60° funnels, pear-shaped or round bottom flasks. They have been designed to accept a large range of flasks and funnel sizes for added flexibility.

The Cole-Parmer® stainless steel screen on all HM-200-V models covers the heater element to protect you from shock hazards due to spills or flask breakage. The HM-200-SP models feature a stainless steel liner over the heating element to provide additional electrical and mechanical protection against spills and ensures easier cleaning.



HM-200-V Electromantle



HM-200-SP Electromantle

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**Cole-Parmer®**

## 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 indicator 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 230V	36204-13	SHM-250	SHM-250-115	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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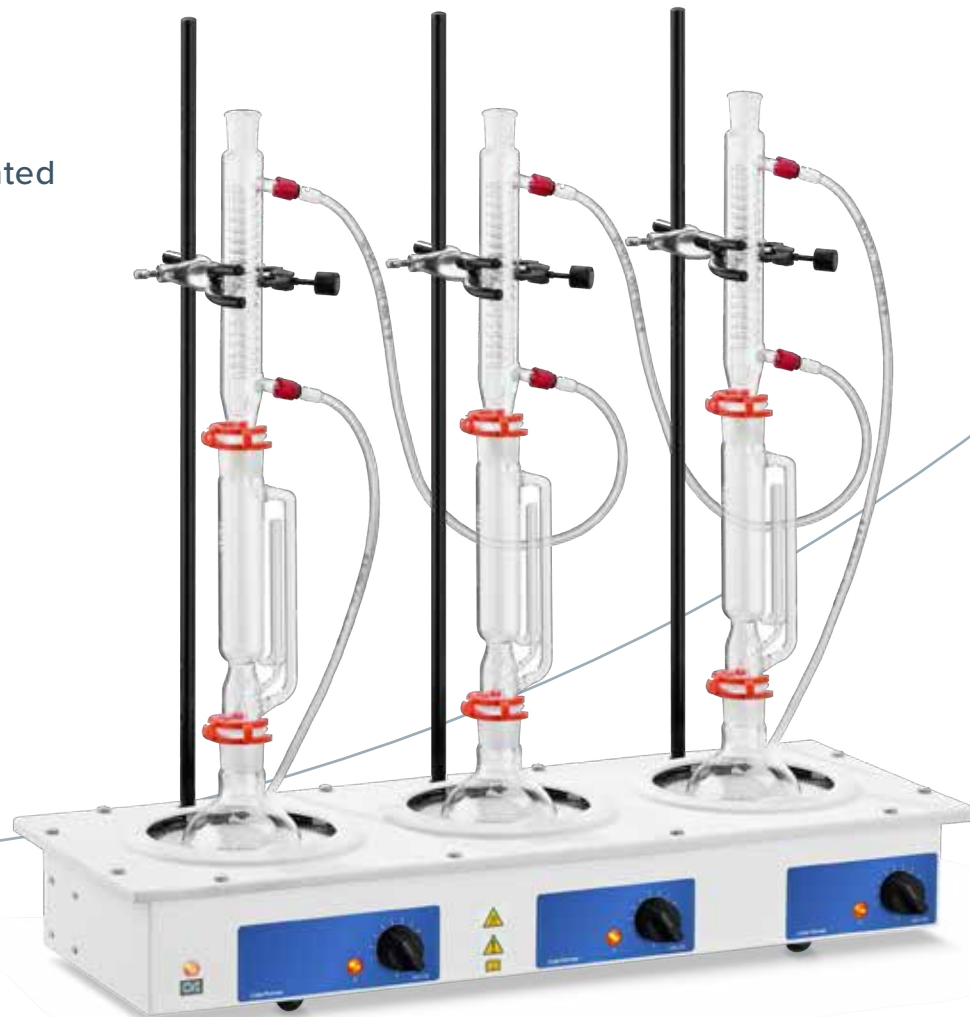
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**Cole-Parmer®**



## Cole-Parmer® 3 Position Multi-Mantles HM-200 and SHM-200

- Individual built-in solid state electronic controls enable easy regulation of heater, while removing sparking associated with mechanical switching
- Three 12.7mm diameter support rods are included
- Round bottom flask capacity from 100mL to 1000mL at all 3 positions
- Top cover is polypropylene and external surfaces are powder coated giving good general chemical resistance
- Coiled heating element is suspended within a thermal insulating cartridge to provide maximum heat transfer and support
- Neon lights indicate when power is on and supplied to heaters and, if applicable, supplied to stirrers



## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
3 x 100ml, 230v 50/ 60Hz, 180W UK and EU plug	03076-01	HM-200	HM-200-MP3-100	EME30100/CEB
3 x 100ml, 115v 50/ 60Hz, 180W	03076-00	HM-200	HM-200-MP3-100-115	EME30100/CEBX1
3 x 250ml, 230v 50/ 60Hz, 450W UK and EU plug	03076-04	HM-200	HM-200-MP3-250	EME30250/CEB
3 x 250ml, 115v 50/ 60Hz/ 450W	03076-03	HM-200	HM-200-MP3-250-115	EME30250/CEBX1
3 x 500ml, 230v 50/ 60Hz, 600W UK and EU plug	03076-07	HM-200	HM-200-MP3-500	EME30500/CEB
3 x 500ml, 115v 50/ 60Hz, 600W	03076-06	HM-200	HM-200-MP3-500-115	EME30500/CEBX1
3 x 1000ml, 230v 50/ 60Hz, 900W UK and EU plug	03076-10	HM-200	HM-200-MP3-1000	EME31000/CEB
3 x 1000ml, 115v 50/ 60Hz, 900W	03076-09	HM-200	HM-200-MP3-1000-115	EME31000/CEBX1

3 x 100ml, 230v 50/ 60Hz, 220W UK and EU plug	03076-13	SHM-200	SHM-200-MP3-100	EMEA30100/CE
3 x 100ml, 115v 50/ 60Hz, 220W	03076-12	SHM-200	SHM-200-MP3-100-115	EMEA30100/CEX1
3 x 250ml, 230v 50/ 60Hz, 490W UK and EU plug	03076-16	SHM-200	SHM-200-MP3-250	EMEA30250/CE
3 x 250ml, 115v 50/ 60Hz, 490W	03076-15	SHM-200	SHM-200-MP3-250-115	EMEA30250/CEX1
3 x 500ml, 230v 50/ 60Hz, 640W UK and EU plug	03076-19	SHM-200	SHM-200-MP3-500	EMEA30500/CE
3 x 500ml, 115v 50/ 60Hz, 640W	03076-18	SHM-200	SHM-200-MP3-500-115	EMEA30500/CEX1
3 x 1000ml, 230v 50/ 60Hz, 940W UK & EU plug	03076-22	SHM-200	SHM-200-MP3-1000	EMEA31000/CE
3 x 1000ml, 115v 50/ 60Hz, 940W	03076-21	SHM-200	SHM-200-MP3-1000-115	EMEA31000/CEX1

## Technical Specification

Specification	HM-200-MP3-100	HM-200-MP3-100-115	HM-200-MP3-250	HM-200-MP3-250-115	HM-200-MP3-500	HM-200-MP3-500-115	HM-200-MP3-1000	HM-200-MP3-1000-115
Flask Capacity	3 x 100ml	3 x 100ml	3 x 250ml	3 x 250ml	3 x 500ml	3 x 500ml	3 x 1000ml	3 x 1000ml
Dimensions (d x w x h), mm	270 x 640 x 110mm	270 x 640 x 110mm	270 x 640 x 110mm	270 x 640 x 110mm	285 x 755 x 130mm	285 x 755 x 130mm	285 x 755 x 130mm	285 x 755 x 130mm
No. of Recesses	3	3	3	3	3	3	3	3
Shipping weight, kg	6.2kg	6.2kg	6.2kg	6.2kg	7.4kg	7.4kg	7.4kg	7.4kg

Specification	SHM-200-MP3-100	SHM-200-MP3-100-115	SHM-200-MP3-250	SHM-200-MP3-250-115	SHM-200-MP3-500	SHM-200-MP3-500-115	SHM-200-MP3-1000	SHM-200-MP3-1000-115
Flask Capacity	3 x 100ml	3 x 100ml	3 x 250ml	3 x 250ml	3 x 500ml	3 x 500ml	3 x 1000ml	3 x 1000ml
Dimensions (d x w x h), mm	270 x 640 x 110mm	270 x 640 x 110mm	270 x 640 x 110mm	270 x 640 x 110mm	285 x 755 x 130mm	285 x 755 x 130mm	285 x 755 x 130mm	285 x 755 x 130mm
No. of Recesses	3	3	3	3	3	3	3	3
Shipping weight, kg	7kg	7kg	7kg	7kg	8.4kg	8.4kg	8.4kg	8kg

## Cole-Parmer® 3 Position Multi-Mantles HM-200 & SHM-200

The Cole-Parmer® 3 place multi position (extraction) mantle has a built-in electronic controller and offers a choice of heater only (HM-200) or heater/stirrer (SHM-200) combination.

### Additional Features for SHM-200 series models

- Allow the solution to be stirred and heated simultaneously
- Provide stirring speeds of between 50 to 1000rpm
- One stirring control operates each set of three recesses



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**Cole-Parmer®**

## Cole-Parmer® HM-200 and SHM-200 6 Position Multi-Mantles

- Individual built-in solid state electronic controls enable easy regulation of heater, while removing sparking associated with mechanical switching
- Three 12.7mm diameter support rods are included
- Round bottom flask capacity from 100mL to 1000mL at all 6 positions
- Top cover is polypropylene and external surfaces are powder coated giving good general chemical resistance
- Coiled heating element is suspended within a thermal insulating cartridge to provide maximum heat transfer and support
- Neon lights indicate when power is on and supplied to heaters and, if applicable, supplied to stirrers



## Ordering Information

Description	Ordering Number	Series No.	Model No.	Legacy Sku.
6 x 100mL, 230v 50/ 60Hz, 420W UK and EU plug	03076-25	HM-200	HM-200-MP6-100	EME60100/CEB
6 x 100mL, 115v 50/ 60Hz, 420W	03076-24	HM-200	HM-200-MP6-100-115	EME60100/CEBX1CEBX1
6 x 250mL, 230v 50/ 60Hz, 900W UK and EU plug	03076-28	HM-200	HM-200-MP6-250	EME60250/CEB
6 x 250mL, 115v 50/ 60Hz, 900W	03076-27	HM-200	HM-200-MP6-250-115	EME60250/CEBX1CEBX1
6 x 500mL, 230v 50/ 60Hz, 1200W UK and EU plug	03076-31	HM-200	HM-200-MP6-500	EME60500/CEB
6 x 500mL, 115v 50/ 60Hz, 1200W	03076-30	HM-200	HM-200-MP6-500-115	EME60500/CEBX1CEBX1
6 x 1000mL, 230v 50/ 60Hz, 1800W UK and EU	03076-34	HM-200	HM-200-MP6-1000	EME61000/CEB
6 x 1000mL, 115v 50/ 60Hz, 1800W	03076-33	HM-200	HM-200-MP6-1000-115	EME61000/CEBX1
6 x 100mL, 230v 50/ 60Hz, 500W UK and EU plug	03076-37	SHM-200	SHM-200-MP6-100	EMEA60100/CE
6 x 100mL, 115v 50/ 60Hz, 500W	03076-36	SHM-200	SHM-200-MP6-100-115	EMEA60100/CEX1
6 x 250mL, 230v 50/ 60Hz, 980W UK and EU plug	03076-40	SHM-200	SHM-200-MP6-250	EMEA60250/CE
6 x 250mL, 115v 50/ 60Hz, 980W	03076-39	SHM-200	SHM-200-MP6-250-115	EMEA60250/CEX1
6 x 500mL, 230v 50/ 60Hz, 1280W UK and EU plug	03076-43	SHM-200	SHM-200-MP6-500	EMEA60500/CE
6 x 500mL, 115v 50/ 60Hz, 1280W	03076-42	SHM-200	SHM-200-MP6-500-115	EMEA60500/CEX1
6 x 1000mL, 230v 50/ 60Hz, 1880W UK and EU plug	03076-46	SHM-200	SHM-200-MP6-1000	EMEA61000/CE
6 x 1000mL, 115v 50/ 60Hz, 1880W	03076-45	SHM-200	SHM-200-MP6-1000-115	EMEA61000/CEX1

## Technical Specification

Specification	HM-200-MP6-100	HM-200-MP6-100-115	HM-200-MP6-250	HM-200-MP6-250-115	HM-200-MP6-500	HM-200-MP6-500-115	HM-200-MP6-1000	HM-200-MP6-1000-115
Flask Capacity	6 x 100mL	6 x 100mL	6 x 250mL	6 x 250mL	6 x 500mL	6 x 500mL	6 x 1000mL	6 x 1000mL
Dimensions (d x w x h), mm	270 x 1210 x 110mm	270 x 1210 x 110mm	270 x 1210 x 110mm	270 x 1210 x 110mm	285 x 1450 x 130mm	285 x 1450 x 130mm	285 x 1450 x 130mm	285 x 1450 x 130mm
No. of Recesses	6	6	6	6	6	6	6	6
Shipping weight, kg	10.1kg	10.1kg	10.1kg	10.1kg	12.5kg	12.5kg	12.5kg	12.5kg

Specification	SHM-200-MP6-100	SHM-200-MP6-100-115	SHM-200-MP6-250	SHM-200-MP6-250-115	SHM-200-MP6-500	SHM-200-MP6-500-115	SHM-200-MP6-1000	SHM-200-MP6-1000-115
Flask Capacity	6 x 100mL	6 x 100mL	6 x 250mL	6 x 250mL	6 x 500mL	6 x 500mL	6 x 1000mL	6 x 1000mL
Dimensions (d x w x h), mm	270 x 1210 x 110mm	270 x 1210 x 110mm	270 x 1210 x 110mm	270 x 1210 x 110mm	285 x 1450 x 130mm	285 x 1450 x 130mm	285 x 1450 x 130mm	285 x 1450 x 130mm
No. of Recesses	6	6	6	6	6	6	6	6
Shipping weight, kg	10.1kg	10.1kg	10.1kg	10.1kg	12.5kg	12.5kg	12.5kg	12.5kg

## Cole-Parmer® HM-200 & SHM-200 6 Position Multi-Mantles

The Cole-Parmer® Multi (Extraction) Mantle with six recesses has a built-in electronic controller and offers a choice of heater only or heater/stirrer combination models.

The vented case's unique air flow ensures the outer case remains safe to touch.

### Additional Features for SHM-200 series models

- Allow the solution to be stirred and heated simultaneously
- Provide stirring speeds of between 50 to 1000rpm
- One stirring control operates each set of six recesses



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**Cole-Parmer®**

## Cole-Parmer® Macro-Kjeldahl Extraction Equipment - EH-200

- Back-mounted brackets hold flask support rods (supplied with each unit)
- Choice of 2 or 6 positions
- Choice of 2 flask capacity sizes: 100 - 300mL and 500 - 800mL for both the 2 and 6 position models
- Operates up to a maximum element temperature range of 550°C to 800°C
- Dedicated controllers for each recess are housed in a “cool zone”
- Units are double fused for added safety (except for the EH-200-2-L which is only available as the 230V model as it is wired in directly)



EH-200  
6 Position Extractor



EH-200  
2 Position Extractor



# Cole-Parmer®

## Macro-Kjeldahl Extraction Equipment - EH-200

### Technical Specification

Specification	EH-200
Element temperature range	550°C to 800°C maximum
Case material	Stainless steel
Thermal insulation	Ceramic fibre/ mineral wool
Clamps for support rods	Fitted with adjustable clamps to accept the standard arms supplied
Wells capacity, ml	100 - 300
Wells dimensions,(dia x depth) mm	89 x 45
Wells capacity, ml	500 - 800
Wells dimensions,(dia x depth) mm	117 x 59

The Cole-Parmer® EH-200 multibank units with either 2 or 6 recesses, have a stainless steel outer casing with back-mounted brackets (supplied with each unit), which can hold support rods of 12.7mm diameter max. There are 2 volume sizes available for both the 2 and 6 recess models, one for 100 - 300mL vessels and the second for 500 - 800mL vessels.

Each heating mantle has its own energy regulator incorporating an On/Off switch and a “Mains to Heater” amber neon indicator. There is also a “Mains On” clear neon indicator on the front panel.

The lower part of the unit houses dedicated controllers for each recess. This “cool zone” housing is separated from the heating elements by a stainless steel screen and a well-ventilated air space. The heating element consists of thermally insulated element wire stitched into a cartridge, and operates up to a maximum element temperature range of 550°C to 800°C.

All EH-200 Macro-Kjeldahl Equipment models incorporate an earth screen to protect the user from electric shocks and are double-fused for extra safety. The rugged stainless steel outer casing is durable and easy to clean.

### Ordering Information

Description	Dimensions (D x W x H)	Weight, kg	Ordering Number	Series No.	Model No.	Legacy Sku.
2-Well Macro-Kjeldahl Extraction Heater, 800C, 100-300mL, 230V, UK	26.0 x 32.0 x 16.5cm,	2kg	03075-02	EH-200	EH-200-2	MQ3822B/E
2-Well Macro-Kjeldahl Extraction Heater, 800C, 100-300mL, 115V, US	26.0 x 32.0 x 16.5cm	2kg	03075-00	EH-200	EH-200-2-115	MQ3822B/EX1
2-Well Macro-Kjeldahl Extraction Heater, 800C, 100-300mL, 230V, EU	26.0 x 32.0 x 16.5cm	2kg	03075-04	EH-200	EH-200-2-EU	MQ3822B/EX6
2-Well Macro-Kjeldahl Extraction Heater, 800C, 500-800mL, 230V UK	26.0 x 32.0 x 16.5cm	2kg	03075-08	EH-200	EH-200-2-L	MQ3824B/E
2-Well Macro-Kjeldahl Extraction Heater, 800C, 500-800mL, 115V US	26.0 x 32.0 x 16.5cm	2kg	03075-06	EH-200	EH-200-2-L-115	MQ3824B/EX1
2-Well Macro-Kjeldahl Extraction Heater, 800C, 500-800mL, 230V EU	26.0 x 32.0 x 16.5cm	2kg	03075-10	EH-200	EH-200-2-L-EU	MQ3824B/EX6
6-Well Macro-Kjeldahl Extraction Heater, 800C, 100-300mL, 230V, UK	26.0 x 97.0 x 16.5cm	5.8kg	03075-14	EH-200	EH-200-6	MQ3866B/E
6-Well Macro-Kjeldahl Extraction Heater, 800C, 100-300mL, 115V, US	26.0 x 97.0 x 16.5cm	5.8kg	03075-12	EH-200	EH-200-6-115	MQ3866B/EX1
6-Well Macro-Kjeldahl Extraction Heater, 800C, 100-300mL, 230V, EU	26.0 x 97.0 x 16.5cm	5.8kg	03075-16	EH-200	EH-200-6-EU	MQ3866B/EX6
6-Well Macro-Kjeldahl Extraction Heater, 800C, 500-800mL, 230V UK	26.0 x 97.0 x 16.5cm	5.8kg	03075-22	EH-200	EH-200-6-L	MQ3868B/E
6-Well Macro-Kjeldahl Extraction Heater, 800C, 500-800mL, 115V US	26.0 x 97.0 x 16.5cm	5.8kg	03075-18	EH-200	EH-200-6-L-115	MQ3868B/EX1
6-Well Macro-Kjeldahl Extraction Heater, 800C, 500-800mL, 230V EU	26.0 x 97.0 x 16.5cm	5kg	03075-20	EH-200	EH-200-6-L-EU	MQ3868B/EX6

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**Cole-Parmer®**



## Cole-Parmer® Rotary Evaporators RV-200

- PID temperature controller provides stable temperature control
- Small footprint takes up minimal lab space
- Choose simple one-handed manual lift or automatic motorized lift
- 2-year warranty



Rotary Evaporator RV-200



## Cole-Parmer® Rotary Evaporators RV-200

Our RV-200 series rotary evaporators focus on essential features to support your everyday lab processes. Easily set and view operating parameters on the two large digital displays; one for rotation speed and timer and another for bath temperature and timer. The unique PTFE sealing system provides great thermostability plus excellent chemical and corrosion resistance.

Stainless steel bath features PTFE coating to withstand high temperatures and is easy to clean. Safety features include dry-run protection, over-temperature shutoff, circuit breaker, and power interruption alarm.

Each unit includes evaporator control stand, uncoated glassware set (vertical condenser, 1-L sample flask, 1-L receiving flask), clip, water bath, vacuum gauge, and power cords (NEMA 5 plugs for 120 VAC models; NEMA 6 plugs for 220 VAC models) for rotator and bath.

### Technical Specification

Specification	RV-200
Rotation speed	20 to 300 rpm
Speed resolution	1 rpm
Water bath temperature range	5 to 99 °C
Temperature resolution	0.1 °C
Evaporation rate	22 mL/min
Maximum vacuum	8 mbar
Vacuum connection	two LCDs
Display	150 x 160 x 65
Timer range	1 to 5999 minutes
Dimensions (W x H x D)	227/16" x 291/16" x 153/16" (57 x 75.4 x 38.6 cm)

### Ordering Information

Max evaporation flask size*	Lift mechanism	Wattage	Power (50/60 Hz)	Item number
2 L	Manual	1000 W	120 VAC	52411-92
			220 VAC	52411-93
2 L	Motorized	1000 W	120 VAC	52411-94
			220 VAC	52411-95

\*Unit is provided with a 1-L evaporation flask but accommodates either a 1-L or 2-L flask.

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**Cole-Parmer®**



## Cole-Parmer® Rotary Evaporators RV-400

- Set and view rotation speed, temperature, and timer on the large LCD
- Unique PTFE sealing system offers excellent thermostability
- PID temperature controller provides stable temperature control
- High-efficiency drain port and injection valves
- Small footprint takes up minimal lab space
- 2-year warranty



Rotary Evaporator RV-400

# Cole-Parmer®

## Rotary Evaporators RV-400



5-L model



10-L model



50-L model

Cole-Parmer RV-400 series rotary evaporators with motorized lift system move the bath up or down smoothly with a simple push of a button. The control panel features up and down arrows to control the bath height, push-button controls to turn rotation and heat on or off, a knob to select parameter, and a large multiline display. The large LCD lets you view and set current rotation speed, temperature, and timer.

The unique PTFE sealing system provides great thermostability and excellent chemical resistance. Direct injection capability for continuous feeding of solution and continuous drain capability without the need to release vacuum or stop the system make these evaporators efficient and simple to use. A stainless steel bath with PTFE coating withstands high temperatures and is easy to clean. Safety features include dry-run protection, overtemperature shutoff, circuit breaker, and power interruption alarm.

Each unit includes evaporator control stand, mounting pole, uncoated glassware set (vertical condenser, sample flask, receiving flask), water bath, clamp holders, brackets, nozzle set, vacuum gauge, and power cord (on 5-L models only).

### Technical Specification

Specification	HP-200-AR
Speed resolution	1 rpm
Water bath temperature range	5 to 99 °C
Temperature resolution	0.1 °C
Maximum vacuum	8 mbar
Timer range	1 to 5999 minutes
Lift mechanism	automatic motorized

### Ordering Information

Evaporation flask size	Rotation speed	Evaporation rate	Vacuum connection	Dimensions (W x H x D)	Wattage	Power (50/60 Hz)	Item number
5 L	20 to 140 rpm	2 L/hr	10 mm barb	33 <sup>7</sup> / <sub>8</sub> " x 44" x 16 <sup>1</sup> / <sub>8</sub> " (86 x 112 x 41 cm)	1800	120 VAC	52411-96
					2300	220 VAC	52411-97
10 L	20 to 130 rpm	3.5 L/hr	18 mm barb	43 <sup>5</sup> / <sub>16</sub> " x 81 <sup>1</sup> / <sub>8</sub> " x 21 <sup>1</sup> / <sub>4</sub> " (110 x 206 x 54 cm)	3300	220 VAC	52411-98
20 L	20 to 130 rpm	4 L/hr	18 mm barb	47 <sup>1</sup> / <sub>4</sub> " x 81 <sup>1</sup> / <sub>8</sub> " x 22 <sup>7</sup> / <sub>16</sub> " (120 x 206 x 57 cm)	4300	220 VAC	52411-99
50 L	20 to 110 rpm	9 L/hr	18 mm barb	51 <sup>3</sup> / <sub>16</sub> " x 84 <sup>5</sup> / <sub>8</sub> " x 24" (130 x 215 x 61 cm)	5300	220 VAC	52410-00

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**Cole-Parmer®**



# Cole-Parmer®

VISIT  
PRODUCT  
ONLINE

## Cole-Parmer® Integrity 10 Reaction Station

- 10 individual cells in one unit
- Individual control of temperature and stirring rate for each cell
- Temperature range of -30°C to 150°C
- Stirring rate of 350 rpm to 1200 rpm
- Cell working volume of 1mL to 25mL
- Optional attachments for refluxing, and working under vacuum
- Automatic microprocessor control through a touchscreen



[coleparmer.com](http://coleparmer.com)



## Cole-Parmer® Integrity 10 Reaction Station

Cole-Parmer® 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 adjacent to it. The versatility of the product means it can be used inside a fume cupboard, 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  $\pm 0.5^{\circ}\text{C}$  and a minimal set point overshoot of  $0.5^{\circ}\text{C}$ . 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  $-30^{\circ}\text{C}$  to  $150^{\circ}\text{C}$ , with precise, independently controlled temperature profiles. Homogeneous sample mixing may be assured with stirring rates of between 350rpm to 1200rpm using magnetic stirrers. If desired, fast heating and cooling rates can be selected, with temperature ramps of between  $0.1^{\circ}\text{C}/\text{min}$  to  $5^{\circ}\text{C}/\text{min}$ . There is also a crash function for even faster temperature changes, which is ideal for kinetic determinations. With working volumes of between 1mL to 25mL, the Integrity 10 is an excellent screening tool for most laboratories and can also be used to establish ideal process conditions.



## Technical Specification

Specification	Integrity 10
Number of cell positions	10
Cell cavity diameter	25.5mm
Glass vessel fill level	1 to 25mL
Temperature range	-30°C to 150°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°C/min to 5°C/min in 0.1°C/min steps
Stir speed range	350 to 1200 rpm
Maximum viscosity capacity	Glycerine at 25°C
Recommended stir bars	12/4.5mm (cylindrical) or 10/6mm (oval)
Temperature range	-30°C to 150°C
Temperature resolution	0.01°C
Temperature accuracy	±0.5°C
Stirrer speed range	350 to 1200 rpm
Stirrer resolution	1 rpm
Stirrer accuracy	±10 rpm

## Ordering Information

Description	Ordering Number	Legacy Sku.
Integrity 10 with 10 individually controlled cells, UK, US & EU power leads	69034-24	PS20001
Integrity 10 refluxinerting unit	36630-97	ATS20100
SVL 22 thread inerting caps, compatible with ATS10075, for use with ATS20100	36630-94	ATS20002
Glass tubes 24 150mm, SVL 22 thread pack of 10	36630-85	ATS10075
Kimble thread inerting caps for use with ATS20100	36630-95	ATS20003
Kimble thread 24 150mm glass tubes compatible with ATS20003, for use with ATS20100	36630-96	ATS20004
Small volume test tubes 24 - 16mm taper ( 3mL ) x10	36630-83	ATS10055
Reducing sleeves for ATS10055 x10	36630-84	ATS10056
Small volume test tubes 24 - 11mm taper ( 1mL ) x10	36630-87	ATS10209
Reducing sleeves for ATS10209	36630-86	ATS10101
Stirrer bars 10 6mm, pack of 10	36630-98	AZS4206
Stirrer bars 12 4.5mm, pack of 10	36630-99	AZS4235
Multi-Temp 10 plug-in box	36630-80	ATS10001
Temperature probe, pack of 6	36630-81	ATS10027
Temperature probe, pack of 10	36630-82	ATS10027 10
Integrity software	36630-92	ATS11005
Non Intrusive IR sensor, pack of 1	36630-90	ATS10360 1
Small Intrusive IR probe in stainless steel PID-NIR5-BNSD, pack of 1	36630-88	ATS10230
Large Intrusive IR and NIR probe pack of 1	36630-91	ATS10394 1
Multi-IR plug-in box	36630-89	ATS10232E

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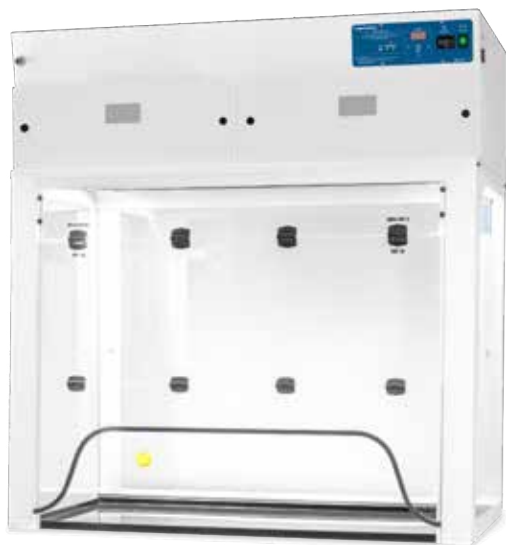
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**Cole-Parmer®**

## Cole-Parmer® Advanced Ductless Fume Hoods - FHD-400

- High operator protection to fume and particle hazards
- Improved clamping eliminates bypass leakage
- Filter blockage alarm
- Polypropylene work surface (stainless steel optional)
- High capacity filters for more demanding applications





Advanced Ductless Fume Hoods - FHD-400

## Cole-Parmer® Advanced Ductless Fume Hoods - FHD-400

Cole-Parmer® Advanced FHD-400 Series ductless fume hoods are designed to protect the user and the environment from hazardous vapors generated on the work surface. Using innovative filtration technology, the FHD-400 Series creates a safe work environment over the widest range of applications in the industry.

Compounding \ Balance Enclosures, Microscopes and Robotic Equipment \ Forensics \ Histology \ Educational \ Microscopy \ Mobile and Classroom Demonstrations \ Pharmaceutical \ Powder.

### Technical Specification

Filters	78902-35	78902-36	78902-37	78902-38
Description	Carbon Filter for Organic Vapours	Carbon Filter for Inorganic Vapours	HEPA for Powders and Particulates	Carbon Filter for Lightweight Aldehyde Vapours

#### Filtration

Face Velocity	100 fpm	100 fpm	100 fpm	100 fpm
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#### Construction

Finish	White epoxy coated steel frame & head unit. Clear sides & back panel. Polypropylene spill tray			
Blower	EC blower			
Controls	Main On/Off			
Electrical	120V, 60Hz or 230V, 50Hz voltages available. Specify when ordering			
Monitoring	Filter blockage alarm, standard			

#### Efficiency

Power Consumption	39 watt	59 watt	60 watt	67 watt
Lighting	LED			

### Ordering Information

Description	Ordering Number	Series No.	Voltage
Cole-Parmer® Ductless Downflow Workstations External (W × D × H) : 991 × 695 × 1346 mm	78902-20	FHD-400	115V 60Hz
	78902-21	FHD-400	230V 50Hz
Cole-Parmer® Ductless Downflow Workstations External (W × D × H) : 1245 × 695 × 1346 mm	78902-22	FHD-400	115V 60Hz
	78902-23	FHD-400	230V 50Hz
Cole-Parmer® Ductless Downflow Workstations External (W × D × H) : 1499 × 695 × 1346 mm	78902-24	FHD-400	115V 60Hz
	78902-25	FHD-400	230V 50Hz
Cole-Parmer® Ductless Downflow Workstations External (W × D × H) : 1753 × 695 × 1346 mm	78902-26	FHD-400	115V 60Hz
	78902-27	FHD-400	230V 50Hz

For more product information on filters and accessories please refer to the product brochure.

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**Cole-Parmer®**

## Cole-Parmer® Ductless Downflow Workstations - DDW-200

- Downward airflow protects operator from fume and particle hazards
- Unrestricted front and side access to work area
- Redesigned DDW-200 Series offers increased internal height
- Easy to change high capacity filters
- Improved filter clamping eliminates bypass leakage
- Filter blockage alarm





Ductless Downflow  
Workstations - DDW-200

## Cole-Parmer® Ductless Downflow Workstations - DDW-200

Cole-Parmer® DDW-200 Series Downflow Workstations are high efficiency ductless fume hoods designed to protect the user and the environment from hazardous vapors generated on the work surface. Unrestricted front and side access facilitates applications requiring complex and intensive operator involvement, while downward airflow in the chamber protects the operator.

Using innovative filtration technology, the DDW-200 Series Downflow Workstations create a safe work environment over the widest range of applications in the industry.

Chemical \ Dental \ Forensic \ Histology \ Industrial \ Microscopy \ Pharmaceutical \ Powder Fingerprinting \ Veterinary.

### Technical Specification

Filters	78902-62	78902-63	78902-64	78902-65
Description	Carbon Filter for Organic Vapours	Carbon Filter for Inorganic Vapours	Downflow Workstation HEPA Filter	Downflow Workstation Carbon Filter for Lightweight Aldehyde Vapours

#### Filtration

Face Velocity	80 fpm
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#### Construction

Finish	White epoxy coated steel frame & head unit. Clear sides & back panel. Polypropylene spill tray
Blower	Belong fan

#### Efficiency

Power Consumption <sup>1</sup>	49 watt
Noise,dBA <sup>2</sup>	< 60

<sup>1</sup> All measurements are with Filter Type ASTM-030.

<sup>2</sup> Measured 12" (30 cm) from the cabinet front and 15" (38 cm) above the work surface plane.

### Ordering Information

Description	Ordering Number	Series No.	Voltage
Cole-Parmer® Ductless Downflow Workstations External (W × D × H) : 610 × 580 × 954 mm	78902-60	DDW-200	115V 60Hz
	78902-61	DDW-200	230V 50Hz

For more product information on filters and accessories please refer to the product brochure.

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**Cole-Parmer®**





## Cole-Parmer® General Purpose Laminar Flow Cabinets - DLF-400

- Provides sterile work zone for aseptic techniques
- Air cleanliness meets and exceeds ISO Class 4
- All models use ULPA filters (99.999% efficient at particle sizes between 0.1 to 0.3  $\mu\text{m}$ )
- Available in horizontal or vertical flow configurations
- All models equipped with a stainless steel work surface



Laminar Flow Cabinet DLF-400



Laminar Flow Cabinet DLF-400

## Cole-Parmer® General Purpose Laminar Flow Cabinets - DLF-400

Cole-Parmer® DLF-400 Series Laminar Flow cabinets are designed to protect equipment and other contents of the work zone from particulates.

The series includes Vertical Laminar Flow (VLF) cabinets and Horizontal Laminar Flow (HLF) cabinets and is ideally suited for use with non-hazardous contaminants when flexible access to equipment in the work zone is desired.

At the heart of the DLF-400 Laminar Flow cabinet product line is the Cole-Parmer ULPA Filtration technology which creates a clean work environment over a wide range of applications.

DLF-400 Series Laminar Flow cabinets are suitable for applications that generate no biohazardous materials and do not require operator protection. Mycology and Food Microbiology\Plant and Mammalian Cell Culture\ Clinical Pharmacy and Hospitals\Cleanrooms\Semiconductor Assembly \ Pharmaceutical\Aerospace\Medical Device Assembly\Research Laboratories

### Technical Specification

#### Filtration

Airflow <sup>1</sup>	0.4 m/s -0.5 m/s (80 - 100 fpm).
Pre-Filter	Disposable polyester fibers with 85% arrestance
Main Filter	ULPA, 99.999% efficient at particle sizes between 0.1 to 0.3 µm
Clamping	Spring loaded, adjustable tension adjusts for gasket aging

#### Construction

Finish (exterior)	White epoxy coated steel frame
Finish (interior)	Standard models, powder coated interior. -SS models, stainless steel interior
Windows	Tempered glass, transparent, not available on SS models
Blower	External rotor motor, permanently lubricated, low noise and vibration levels
Controls	Main On/Off switch; Solid state fan speed control with RFI filter; UV timer and key switch if included, specify when ordering
Electrical	120V, 60Hz or 230V, 50Hz voltages available. Specify when ordering. Other voltage options available
Work Surface	Stainless steel
GFCI outlet	Standard, 5A maximum
Monitoring	Minihelic ULPA pressure gauge

#### Efficiency

Lighting	LED.
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### Ordering Information

Description	Ordering Number	Series No.	Voltage
Cole-Parmer® Vertical Laminar Flow Cabinets External (W × D × H) : 1331 × 743 × 1200 mm	78902-40	DFL-400	115V 60Hz
	78902-41	DFL-400	230V 50Hz
Cole-Parmer® Vertical Laminar Flow Cabinets External (W × D × H) : 1941 × 743 × 1200 mm	78902-42	DFL-400	115V 60Hz
	78902-43	DFL-400	230V 50Hz
Cole-Parmer® Horizontal Laminar Flow Cabinets External (W × D × H) : 1251 × 749 × 1086 mm	78902-50	DFL-400	115V 60Hz
	78902-51	DFL-400	230V 50Hz
Cole-Parmer® Horizontal Laminar Flow Cabinets External (W × D × H) : 1861 × 749 × 1086 mm	78902-52	DFL-400	115V 60Hz
	78902-53	DFL-400	230V 50Hz

For more product information on filters and accessories please refer to the product brochure.

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**Cole-Parmer®**

## Cole-Parmer CG-900 Cryo-Blade™ Cryogenic Grinder

Breakthrough, hands free processing from bulk  
to analytical preparation in 15 minutes or less

- High-throughput processing of up to 1 kg of sample per run
- Execute a cycle in 15 minutes or less
- Capability to use liquid nitrogen or dry ice to process your sample
- Automated dispensing of liquid nitrogen eliminates the handling and manipulation of liquid nitrogen (patent pending)



3-YEAR  
WARRANTY



CE  
MARKED

# CG-900 Cryo-Blade™ Cryogenic Grinder

## More Sample, Less Time, Same Yield

The Cryo-Blade is an ultra high-capacity cryogenic grinder for sample preparation and processing of up to 1 kg of sample. The Cryo-Blade automatically dispenses liquid nitrogen to allow the sample to reach cryogenic temperatures and then activates a grinding phase to pulverize samples, resulting in repeatable and reproducible sample comminution. No liquid nitrogen handling required.

When liquid nitrogen is not desired or available, the unit can be used with dry ice to achieve desired results.

Automatic and protocol modes available. In automatic mode, parameters are set based on the volume of the sample. Protocol mode allows users to save up to 10 protocols. Cryo-Blade can accommodate samples up to 1 kg per run. Cycle can be executed in 15 minutes when using liquid nitrogen, or 30 minutes when using dry ice. The intuitive interface includes 12 languages.

The insulated outer bowl, mechanical locking lever, and sensors provide the user with a safe, consistent, and reliable sample each use. The removable 5 L inner bowl can accommodate samples up to 1 kg and allows samples to be stored in the freezer, giving the user the option of using a second bowl to prepare a new batch. The outer bowl is insulated to allow safe touch at all times, although it is recommended to use protective gloves.

**Typical applications:** analysis of organic pollutants in food products (pesticide residues), QuEChERS

**Typical samples:** fruits, vegetables, seeds, stalks, roots, fungi, flowers



CG-900 Cryo-Blade™

## Before & After Samples

### Watermelon



### Corn



# CG-900 Cryo-Blade™ Cryogenic Grinder

## Specifications

Max Grinding Speed	3600 rpm
Mixing Speed	180 rpm
Maximum LN Flow	5 L/min
Sample Volume	1 kg
Interface	12 languages
Voltage	115 V/20 A or 230 V/10 A
Dimensions (L x W x H)	91.4 cm (36 in) x 68.6 cm (27 in) x 101.6 cm (40 in)
Net Weight	99.8 kg (220 lb)
Warranty	3 Years
What's Included	Cryo-Blade unit, insulated outer bowl, inner bowl, cryogenic processor lid with blade, USB memory stick, and instruction manual

## Ordering Information – Equipment

Description	Electrical	Item Number
Cryo-Blade Cryogenic Grinder	115 V	61211-71
Cryo-Blade Cryogenic Grinder	230 V	61211-72

## Ordering Information – Accessory

Description	Item Number
Cryogenic Processor Inner Bowl, 5 L	61211-70
Cryogenic Processor Blade	61211-69



Cryogenic Processor  
Inner Bowl, 5 L



Cryogenic Processor Blade

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