



*Lab solutions*

# PHOENIX

# Instrument



 PHOENIX  
Instrument

**Stirrer • Mixer • Shaker**

# Stirrer

The magnetic stirrers from Phoenix Instrument offer the right device for all areas of daily laboratory routine.

You have the choice between digital or analogue devices. Both variants are available with or without heating function. Most of the stirrers with heating function have an integrated control function.

When the external temperature sensor PT-1000 is connected, the temperature in the sample can be very precisely adjusted and stirred.

The stirrer plates are either made of stainless steel, stainless steel with porcelain surface, ceramic or plastic.

The comprehensive extensive range of accessories extends from the stand rod and temperature sensor to protective covers and reactor attachments.

## Stirrer

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## Magnetic Stirrer



### RSM-ECO

- analog Magnetic stirrer
- stepless speed regulation from 300 to 2,000 rpm
- chemical resistant surface
- compact, sealed housing
- silent, vibration free use
- maintenance-free Motor
- includes holder for pH-electrodes



### RSM-10A

- analog Magnetic stirrer
- compact construction
- sealed housing (IP42)



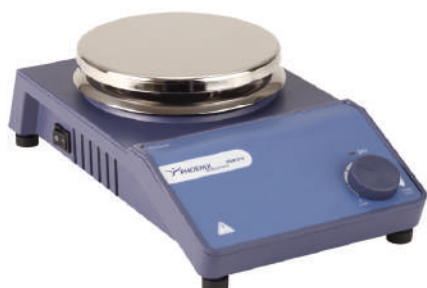
### RSM-10B

- digital Magnetic stirrer
- compact construction
- sealed housing (IP42)

2 years warranty

Technical Data	RSM-10A	RSM-10B	RSM-ECO
Stirring volume (H <sub>2</sub> O)		3 l	1.5 l
Speed	50 - 1,500 rpm	200 - 1,500 rpm	300 - 2,000 rpm
Plate dimension ø		135 mm	120 mm
Plate material		Plastic	
Motor		DC, brushless	
Display	analog	LED	analog
Max. stirring bar length		50 mm	40 mm
Voltage • Frequency		100 - 240 VAC • 50/60 Hz	
Power	10 W	15 W	7,2 W
Protection class acc. EN60529		IP 42	IP 21
Weight		1.5 kg	0.6 kg

## Magnetic Stirrer / Magnetic Stirrer with heating function



### RSM-01S

- Typical magnetic stirrer in a modern Design
- sturdy metal housing IP 42
- high stirring power and volume (20 Liter)

### RSM-01HS • RSM-01HP

- classic, analogue magnetic stirrer
- stirring plate in stainless steel or covered with porcelain
- sturdy design (metal housing, IP 42)
- high stirring volume (20 Liter)



2 years warranty



### RSM-02HSP • RSM-02HPP

- magnetic stirrer of the latest generation
- connector for PT-1000, integrated control function
- digital adjustment with backlit Display
- RS 232 to control the stirrer and to transfer data
- indicator for hot surface, even when stirrer is shut-off
- comprehensive range of accessories
- high stirring volume (20 Liter)

Technical Data	RSM-01S	RSM-01HS	RSM-01HP	RSM-02HSP	RSM-02HPP
Stirring volume (H <sub>2</sub> O)			20 L		
Speed		50 - 1,500 rpm		100 - 1,500 rpm	
Temperature range	-		RT+5 to 340 °C		
Heating power	-		500 W		
Temperature accuracy	-	-	-	1 °C	1 °C
Plate dimension ø			135 mm		
Plate material	Stainless steel		Stainless steel with porcelain surface	Stainless steel	Stainless steel with porcelain surface
Motor			DC, brushless		
Display		analog			LCD
Interface	-	-	-	RS-232	
Max. stirring bar length			80 mm		
Connector for temperatur sensor	-	-	-	yes	
Safety temperatur	-		420 °C		
Voltage • Frequency			100 - 240 VAC • 50/60 Hz		
Power	30 W		550 W		
Protection class acc. EN60529			IP 42		
Dimension			160 x 280 x 85 mm		
Weight	2.9 kg	3 kg	3.1 kg	3.1 kg	3.2 kg

## Magnetic Stirrer with heating function



### RSM-04H

- analog Magnetic stirrer with integrated control function
- Temperature sensor PT-1000 included
- sturdy full metal housing
- backlit digital display or LED
- glass ceramic hotplate (180 x 180 mm)
- hot plate warning, even when the stirrer is shut-off

2 years warranty



### RSM-05H

- digital Magnetic stirrer with integrated control function
- temperature sensor PT-1000 included
- sturdy full metal housing with large glass ceramic hot plate (180 x 180 mm)
- hot plate warning, even when the stirrer is shut-off
- high stirring volume (20 Liter)



### RSM-06H

- up to 30 liter stirring volume, Powerful brushless DC motor
- large glass ceramic plate for excellent chemical resistant performance and efficient heat transfer
- LCD display for precise monitoring of speed and temperature
- connector for external temperature sensor PT-1000
- digital speed control of 100 - 1,500 rpm, max. heating plate temperature 500 °C
- hotplate warning even when the stirrer is off
- data connector: The SD card records the instrument's running data in real time
- timing function: the running time of the instrument can be set
- high stirring volume (30 Liter)

Technical Data	RSM-04H	RSM-05H	RSM-06H
Stirring volume (HzO)	10 L	20 L	30 L
Speed	100 - 1,500 rpm		
Temperate range	RT+5 to 550 °C		RT+5 to 500 °C
Heating power	1,000 W		1,350 W
Temp. Accuracy	5 °C		1 °C
Plate dimension	184 x 184 mm		254 x 254 mm
Plate material	Glass ceramic		
Motor	DC, brushless		
Dispaly	LED		LCD
Interface	-	RS-232	SD-Card
Max. stirring bar length	80 mm		
Connector for temperature sensor	yes		
Safety temperature	580 °C		540 °C
Voltage • Frequency	200 - 240 VAC • 50/60 Hz		
Power	1,050 W		1,400 W
Protection class acc. EN60529	IP 21		
Dimension	215 x 340 x 110 mm		330 x 425 x 140 mm
Weight	5.9 kg		7.2 kg

## Magnetic Stirrer with heating function

### RSM-10HS / RSM-10HP

- LED-Display for accurate regulation of speed and temperature
- digital controlled speed and temperature
- indicator for hot surface, even when stirrer is shut-off
- connector for PT-1000
- hotplate made of stainless steel or with porcelain surface
- compact construction, sealed housing (IP42)



*2 years warranty*

### RSM-14HP

- LCD-Display for accurate regulation and digital control of speed and temperature
- indicator for hot surface, even when the stirrer is shut-off
- connector for PT-1000
- hotplate made of Aluminum
- integrated temperature control function
- compact construction, sealed housing (IP42)



Technical Data	RSM-10HS	RSM10HP	RSM-14HP
Stirring volume (H <sub>2</sub> O)	3 L		5 L
Speed	200 - 1,500 rpm		
Temperate range	RT+5 to 280 °C		RT+5 to 340 °C
Heating power	500 W		
Temp. accuracy	2 °C		1 °C
Plate dimension	135 mm ø		140 x 140 mm
Plate material	Stainless steel	Stainless steel with porcelain surface	Aluminium with porcelain surface
Motor	DC, brushless		
Display	LED		
Interface	-	-	-
Max. stirring bar length	50 mm		
Connector for temperature sensor	yes		
Safety temperature	320 °C		420 °C
Voltage • Frequency	100 - 240 VAC • 50/60 Hz		
Power	515 W		510 W
Protection class acc. EN60529	IP 21		
Dimension	155 x 215 x 100 mm		180 x 320 x 108 mm
Weight	2.1 kg	2.2 kg	3.2 kg

## Multiposition Stirrer



### RSM-03-4KH

- digital 4-position magnetic stirrer with integrated controller function
- connection for external PT-1000
- each stirring point can be controlled separately
- temperature sensors and columns are included in delivery
- hotplate made of stainless steel with porcelain surface
- hotplate warning even when the stirrer is turned off
- maintenance-free, brushless DC Motor

2 years warranty



### RSM-03-10K

- analog 10-place Magnetic stirrer
- stepless speed control from 50 to 1,100 rpm
- stainless steel plate with silicone films, anti-slip and anti-corrosion

### RSM-03-10KH

- with heating function

Technical Data	RSM-03-4KH	RSM-03-10K	RSM-03-10KH
No. of stirring points	4		10
Stirring volume (H <sub>2</sub> O)	4 x 10 L		10 x 0.4 L
Speed	200 - 1,500 rpm		50 to 1,100 rpm
Temperate range	RT+5 to 340 °C	-	RT+5 to 120 °C
Heating power	4 x 500 W	-	470 W
Temp. accuracy	1 °C	-	-
Plate dimension	4 x 135 mm		180 x 450 mm
Plate material	Stainless steel with porcelain surface		Stainless steel with silicon film
Motor		DC, brushless	
Display	digital		analog
Max. stirring bar length		40 mm	
Connector for temperatur sensor	yes		no
Safety temperature	420 °C	-	140 °C
Voltage / Frequency		100 - 240 VAC / 50/60 Hz	
Power	4 x 515 W	490 W	20 W
Protection class acc. EN60529		IP 20	
Dimension	700 x 270 x 130 mm		185 x 555 x 65 mm
Weight	11.9 kg	5.9 kg	6.1 kg

## Accessories Magnetic Stirrer

RSM-E 100	Carrier plate to be used for hotplate stainless steel (RSM-01/02HS)
RSM-E 105	Fixing ring to be used for hotplate stainless steel (RSM-01/02HS)
RSM-E 110	Red quarter pie, 11-holes, Ø 15.2 mm, depth 19 mm, to be used with RSM-E 100/105
RSM-E 120	Purple quarter pie, 4-holes, Ø 28 mm, depth 24 mm, to be used with RSM-E 100/105
RSM-E 130	Blue quarter pie, 4-holes, Ø 28 mm, depth 30 mm, to be used with RSM-E 100/105
RSM-E 140	Black quarter pie, 4-holes, Ø 28 mm, depth 42.8 mm, to be used with RSM-E 100/105
RSM-E 150	Green quarter pie, 8-holes, Ø 17.75 mm, depth 25.5 mm, to be used with RSM-E 100/105
RSM-E 160	Golden quarter pie, 4-holes, Ø 21.6 mm, depth 31.7 mm, to be used with RSM-E 100/105
RSM-E 165	Aluminum alloy bead bath block 500 ml, with 500 ml beads for RSM-02HSP
RSM-E 166	Aluminum alloy bead bath block 1,000 ml, with 1,000 ml beads for RSM-02HSP
RSM-E 167	Aluminum alloy beads 1 kg (500 ml)
RSM-E 170	Reaction block for round flasks 50 ml
RSM-E 172	Reaction block for round flasks 100 ml
RSM-E 174	Reaction block for round flasks 250 ml
RSM-E 176	Reaction block for round flasks 500 ml
RSM-E 178	Reaction block for round flasks 1,000 ml
RSM-E 200	Stirrer bar, 10 x 6 mm, 1 pc
RSM-E 205	Stirrer bar, 15 x 8 mm, 1 pc
RSM-E 210	Stirrer bar, 20 x 8 mm, 1 pc
RSM-E 215	Stirrer bar, 25 x 8 mm, 1 pc
RSM-E 220	Stirrer bar, 30 x 8 mm, 1 pc
RSM-E 225	Stirrer bar, 40 x 8 mm, 1 pc
RSM-E 230	Stirrer bar, 50 x 8 mm, 1 pc
RSM-E 235	Stirrer bar, 65 x 8 mm, 1 pc
RSM-E 240	Stirrer bar, 80 x 13 mm, 1 pc
RSM-E 310	Stirrer bar remover



Quarter Pies on Carrier Plate

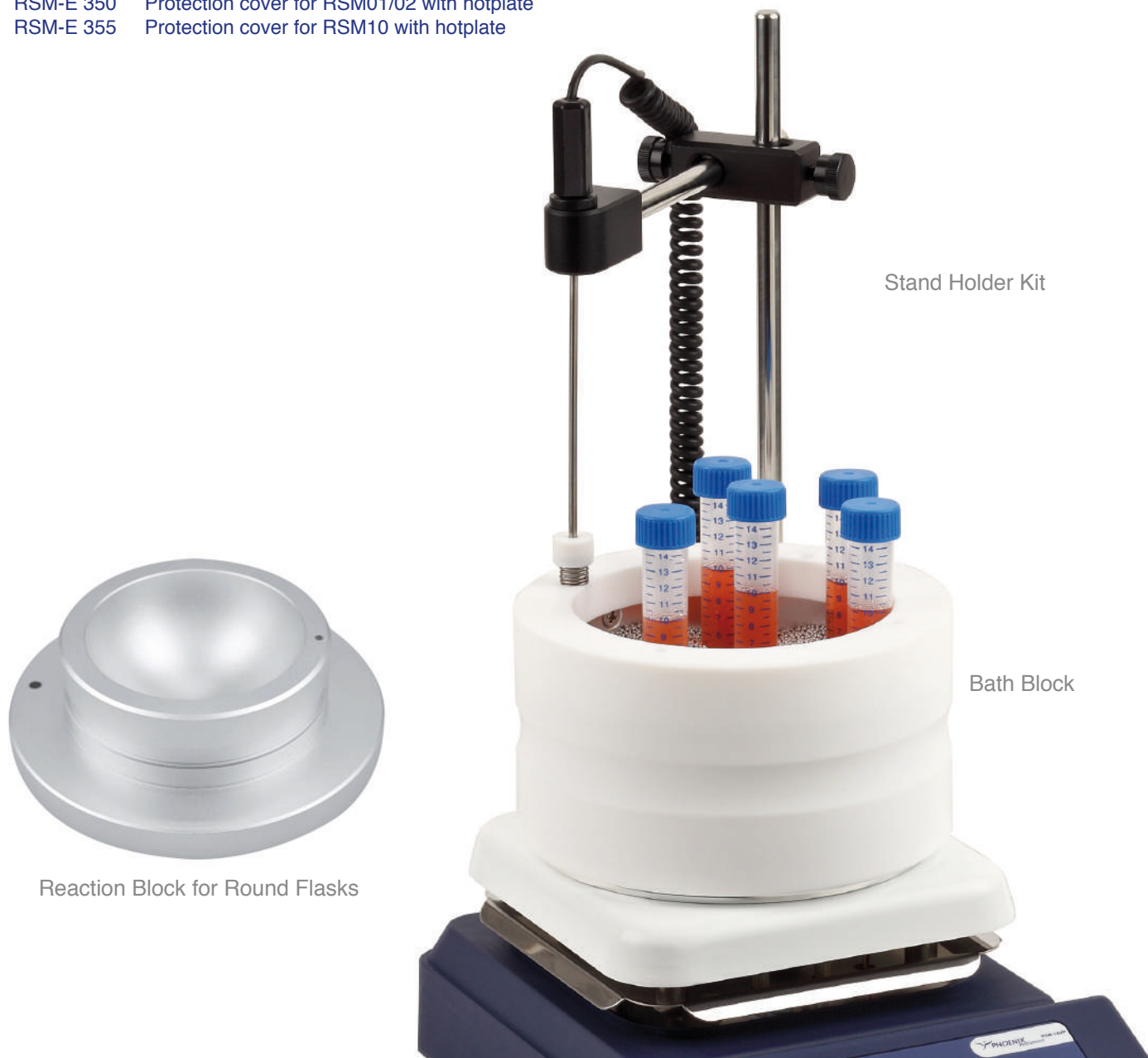


## Accessories Magnetic Stirrer

RSM-E 320 Temperature sensor PT-1000 for RSM-02HP/HS - RSM-10HP/HS-RSM-05H  
RSM-E 320G Temperature sensor PT-1000, Glass coated

RSM-E 330 Stand holder for PT-1000 for RSM 01/02/04/05  
RSM-E 335 Stand holder for PT-1000 for RSM-10

RSM-E 340 Protection cover for RSM01/02 without hotplate  
RSM-E 350 Protection cover for RSM01/02 with hotplate  
RSM-E 355 Protection cover for RSM10 with hotplate



Stand Holder Kit

Bath Block

Reaction Block for Round Flasks

# Shaker

Whether gentle agitation, horizontal or orbital shaking or the intensive mixing of media, the laboratory shakers and mixers from Phoenix Instrument offer the right device for all application and areas of daily laboratory routine.

Thanks to the extensive range of accessories, the shakers and mixers can be configured individually for every task.

## Shaker

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## Digital Orbital Shaker RS-OS 6



### RS-OS 6

- compact laboratory shaker for a maximum load of 3 kg
- safe stand
- delivery includes fixed bowl attachment
- continuous or timer operation
- maintenance-free, brushless motor

2 years warranty



Technical Data	RS-OS 6
Shaking movement	orbital
Shaking diameter	20 mm
Speed	40 - 200 rpm
Motor	DC, brushless
Timer-function	yes
Operation	Timer / Continuous
Display	LED / LED
Adjustment Speed / Time	digital
Dimension	295 x 350 x 125 mm
Dimension Plattform	268 x 268 mm
Protection class	IP 21
Voltage • Frequency	100 - 240 VAC • 50/60 Hz
Dimension	3.1 kg

## Digital Orbital and Linear Shaker RS-OS • RS-LS

### RS-OS 10/20 • RS-LS 10/20

- compact shaker with a maximum capacity of 2.5/ 7.5 kg
- backlit display for easy adjustment of time and speed
- fix stand with anti-slipping feet
- adjustable safety speed
- RS 232-interface to control the shaker and to transfer data
- comprehensive range of accessories



2 years warranty

RS-OS-10/20

Technical Data	RS-OS 10	RS-OS 20	RS-LS 10	RS-LS 20
Shaking movement	orbital		linear	
Shaking diameter	4 mm	10 mm	4 mm	10 mm
Max. shaking weight	2.5 kg	7.5 kg	2.5 kg	7.5 kg
Speed	100 - 800 rpm	100 - 500 rpm	100 - 800 rpm	100 - 500 rpm
Timer-function	yes, 1 - 1.199 min			
Operation	Timer / Continuous			
Display Speed / Time	LCD / LCD			
Adjustment Speed / Time	digital			
RS-232	yes			
Dimension	340 x 300 x 100 mm	420 x 370 x 100 mm	340 x 300 x 100 mm	420 x 370 x 100 mm
Dimension Plattform	240 x 240 mm	320 x 320 mm	240 x 240 mm	320 x 320 mm
Protection class	IP 21			
Voltage • Frequency	100 - 240 VAC • 50/60 Hz			
Weight	7.9 kg	13.4 kg	7.9 kg	13.4 kg

## Digital Sea-Saw Shaker RS-RR 10 and 3D-Shaker RS-RD 10

### RS-RR 10 • RS-RD 10

- gentle sample mixing
- sturdy construction
- backlit display
- simultaneous display of speed and time
- fix stand with anti-slipping feet
- attachment included
- comprehensive range of accessories

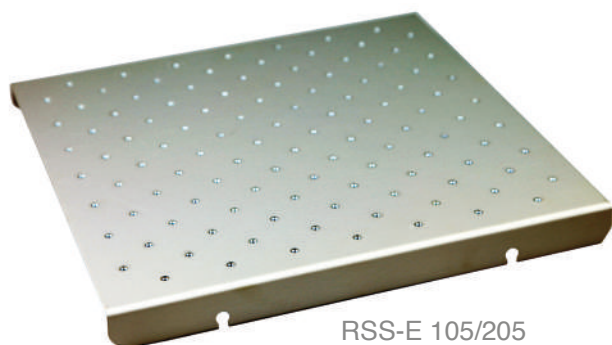


2 years warranty

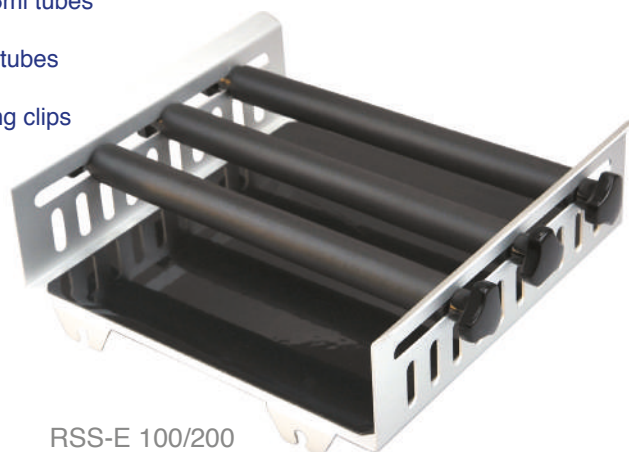
Technical Data	RS-RR 10	RS-RD 10
Shaking movement	Sea-saw	3D orbital
Shaking angel		±9 °
Max. speed	10 - 70 rpm	
Dispaly	LCD	
Timer-function	yes, 1 - 1.199 min	
Operation	Timer / Continuous	
Max. shaking weigt	10 kg	5 kg
Dimension	420 x 370 x 106 mm	420 x 370 x 200 mm
Dimension Platform	320 x 320 mm	
Ambient temperature	5 - 40 °C	
Protection class	IP 21	
Voltage • Frequency	100 - 240 VAC • 50/60 Hz	
Weight	13,9 kg	15,1 kg

## Shaker Accessories

- RSS-E 100 Universal attachment with clamping rolls OS/LS 5, 10, RS-RS 5 and RS-DS 5  
 RSS-E 105 Base plate for OS/LS 5, 10, RS-RS 5, RS-DS 5 to be used with Erlenmeyer fixing clips  
 RSS-E 110 Universal attachment with vertical adjustable clamping rolls OS/LS 10  
 RSS-E 115 Dish attachment for OS/LS 5, 10, RS-RS 5 and RS-DS 5, incl. fixing belts  
 RSS-E 160 Dish attachment for OS/LS 5, 10, RS-RS 5 and RS-DS 5, 20 x 30 cm, incl. fixing belts  
 RSS-E 165 Dish attachment for OS/LS 5, 10, RS-RS 5 and RS-DS 5, 28 x 28 cm, incl. fixing belts  
 RSS-E 168 Connector to use 2 disk modules/ 4pcs  
 RSS-E 180 Silicone mat for dish attachment RSS-E 115 for 10x 5-10ml tubes  
 RSS-E 181 Silicone mat for dish attachment RSS-E 115 for 4x 50ml tubes  
 RSS-E 182 Silicone mat for dish attachment RSS-E 220 for 16x 5-15ml tubes  
 RSS-E 183 Silicone mat for dish attachment RSS-E 220 for 6x 50ml tubes  
 RSS-E 200 Universal attachment with clamping rolls OS/LS 20  
 RSS-E 205 Base plate for OS/LS 20 to be used with Erlenmeyer fixing clips  
 RSS-E 210 Universal attachment with vertical adjustable Clamping rolls OS/LS 20



RSS-E 105/205

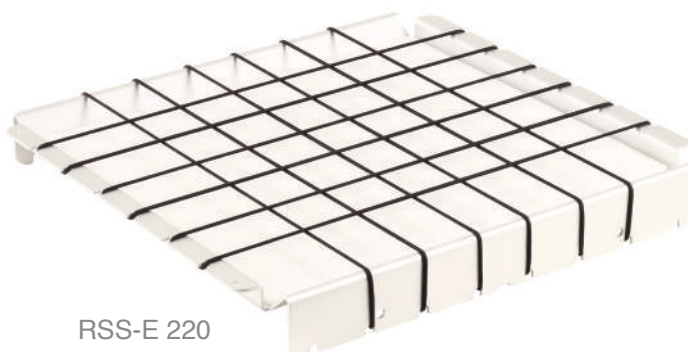


RSS-E 100/200

Maximum load for attachment RSS-E 105/205 with fixing clips for Erlenmeyer flasks

Fixing clips	25 ml	50 ml	100 ml	250 ml	500 ml
RSS-E 105	18	18	9 (12)*	6 (8)*	4 (5)*
RSS-E 205	28	28	16	9 (12)*	9

\* Erlenmeyer flasks overlapping



RSS-E 220

## Shaker Accessories

RSS-E 120 Fixing clip for Erlenmeyer flask 25 ml volume  
 RSS-E 125 Fixing clip for Erlenmeyer flask 50 ml volume  
 RSS-E 130 Fixing clip for Erlenmeyer flask 100 ml volume  
 RSS-E 135 Fixing clip for Erlenmeyer flask 200/250 ml volume  
 RSS-E 140 Fixing clip for Erlenmeyer flask 500 ml volume  
 RSS-E 141 Fixing clip for Erlenmeyer flask 1,000 ml volume

RSS-E 145 Clamping rolls for RSS-E 100  
 RSS-E 245 Clamping rolls for RSS-E 200

RSS-E 250 Erlenmeyer flask with baffle 100 ml volume  
 RSS-E 251 Erlenmeyer flask with baffle 250 ml volume  
 RSS-E 252 Erlenmeyer flask with baffle 500 ml volume

RSS-E 253 Cultur flask with baffle 100 ml volume  
 RSS-E 254 Cultur flask with baffle 250 ml volume  
 RSS-E 255 Cultur flask with baffle 500 ml volume



RSS-E 120



RSS-E 125



RSS-E 130



RSS-E 135



RSS-E 140

Fixing Clips for Erlenmeyer Flasks

## Incubation Shaker IS-OS 20



### IS-OS 20

- forced recirculation
- spring-loaded shelf included
- adjustable safety temperature
- cover made of 8 mm acrylic glass
- extensive range of accessories

*2 years warranty*

Technical Data	IS-OS 20	IS-OS 30
Temperature range / resolution	RT +5 to 60 °C / 0.1 °C	4 to 60 °C / 0.1 °C
Temperature homogeneity at 37°C	± 0.5 °C	± 0.5 °C
Temperature variation at 37°C	± 0.1 °C	± 0.1 °C
Timer	99:59 min / continuous operation	
Shaking speed	40 ... 300 rpm	
Amplitude of platform movement	20 mm	
Capacity (Erlenmeyer Flasks)	7 x 500 ml 4 x 1,000 ml	12 x 500 ml
Dimension platform	320 x 320 mm	450 x 450 mm
Power	500 W	1,300 W
Dimension	500 x 610 x 470 mm	610 x 950 x 540 mm
Material of hood / thickness	Plexiglas / 8 mm	
Weight	40 kg	90 kg
Adjustable safety temperature	yes	
Recognition open hood	yes	
Voltage • Frequency	230 VAC • 50/60 Hz	



## Incubation Shaker IS-OS 30



2 years warranty

### IS-OS 30

- forced recirculation
- spring-loaded shelf included
- adjustable safety temperature
- cover made of 8 mm acrylic glass
- extensive range of accessories



Max. load for the spring-loaded shelf

	IS-OS 20	IS-OS 30
Erlenmeyer flasks 250 ml	9	12
50 ml Flacon-tubes	25	37

Max. load of base plate

	IS-OS 20	IS-OS 30
Erlenmeyer flasks 50 ml	28	49
Erlenmeyer flasks 100 ml	23	36
Erlenmeyer flasks 250 ml	13	18
Erlenmeyer flasks 500 ml	8	16
Erlenmeyer flasks 1,000 ml	4	9
Erlenmeyer flasks 2,000 ml	1	4

### Incubation Shaker Accessories

- ISS-E 200 attachment with 4 clamping rolls for IS-OS20
- ISS-E 205 base plate to be used with fixing clips for IS-OS20
- ISS-E 220 dish attachment with non-slip mat for IS-OS20
- ISS-E 300 attachment with 4 clamping rolls for IS-OS30
- ISS-E 305 base plate to be used with fixing clips for IS-OS30
- ISS-E 320 dish attachment with non-slip mat for IS-OS30
- ISS-E 130 fixing clip for Erlenmeyer flask 100 ml volume
- ISS-E 135 fixing clip for Erlenmeyer flask 200/250 ml volume
- ISS-E 140 fixing clip for Erlenmeyer flask 500 ml volume
- ISS-E 145 fixing clip for Erlenmeyer flask 1,000 ml volume
- ISS-E 150 fixing clip for Erlenmeyer flask 2,000 ml volume

## Rotator RS-RR 20 and Disk Mixer RS-RD 20

2 years warranty

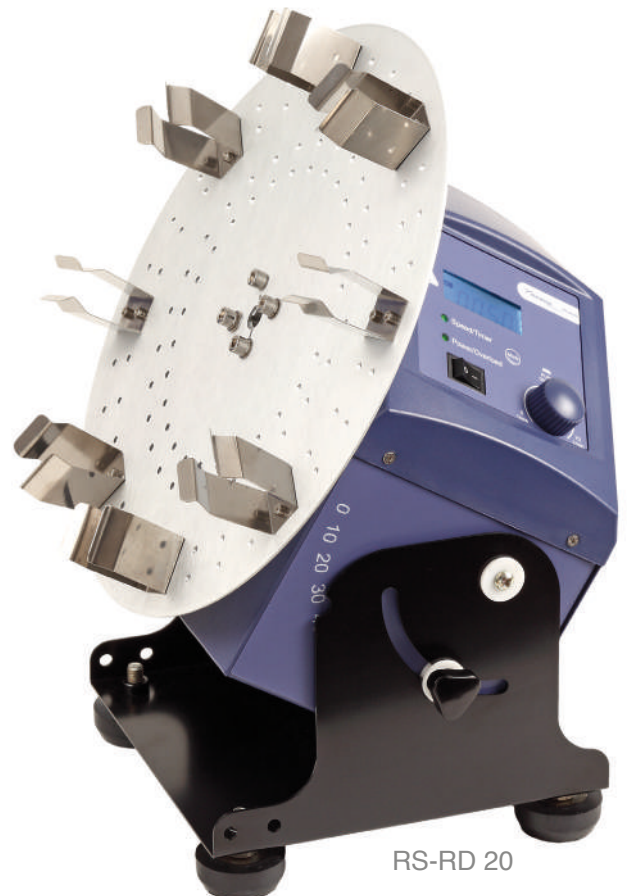


RS-RR 20

### RS-RR 20 • RS RD 20

- instrument will be supplied incl. tube holder (RS-RR20) or disk mixer (RS-RD 20)
- dual-Use - rotator RS-RR 20 can also be used as disk mixer
- fix stand with anti-slipping feet
- backlit display to adjust speed and time
- comprehensive range of accessories

Technical Data	RS-RR 20	RS-RD 20
Movement	Rotation	Rotation Disk
Rotation angle	-	0 - 90 °
Speed	10 - 70 rpm	
Timer-function	yes	
Operation	Timer / Continuous	
Display Speed / Time	LCD / LCD	
Adjustment Speed / Time	digital / digital	
Dimension	510 x 190 x 260 mm	250 x 190 x 260 mm
Protection class	IP 21	
Power	40 W	
Voltage • Frequency	100 - 240 VAC • 50/60 Hz	
Weight	8.9 kg	5.8 kg



RS-RD 20

## Analog Rotator and Disk Mixer RS-RR 5 • RS-RD 5

### RS-RR 5 • RS-RD 5

- accessories for 1,5/2 ml, 15 ml and 50 ml tubes are included
- variable Speed
- compact construction
- adjustable feet
- easy to clean

2 years warranty



RS-RR 5



RS-RD 5

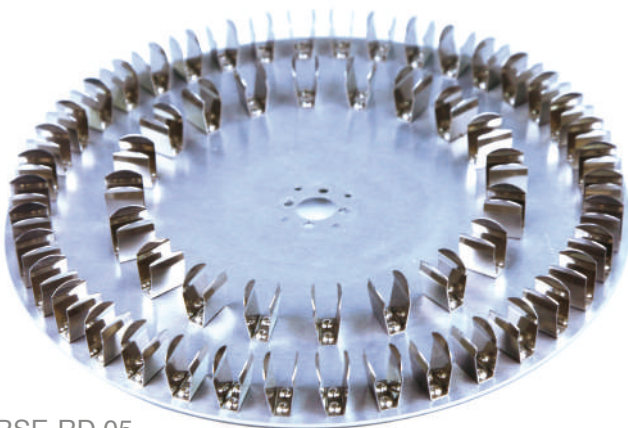
Maximum assembling RS-RR 5 and RS-RD 5

Fixing clips	1.5 / 2 ml	15 ml	50 ml
RS-RR 5	34	20	12
RS-RD 5	48	8	8

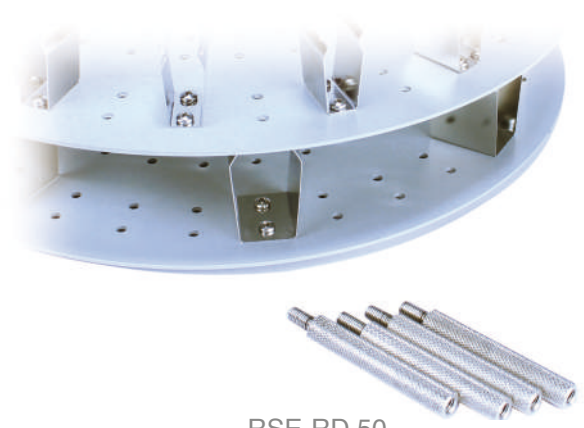
Technical Data	RS-RR 5	RS-RD 5
Movement	Rotation	Rotation Disk
Rotation angle	-	0 - 90 °C
Speed	5 - 80 rpm	
Timer-function	-	
Operation	continous	
Dispaly Speed / Time	Scala / Scala	
Adjustment Speed / Time	analog / analog	
Dimension	530 x 150 x 190 mm	2,200 x 300 x 310 mm
Protection class	IP 21	
Power	20 W	
Voltage • Frequency	100 - 240 VAC • 50/60 Hz	
Weight	2.9 kg	3.1 kg

## Rotator and Disc Mixer Accessories

RSE-RR 05	Rotator module for RS-RR 20, 48 x 1.5 ml tubes, horizontal mixing
RSE-RR 10	Rotator module for RS-RR 20, 24 x 15 ml tubes, horizontal mixing
RSE-RR 15	Rotator modul for RS-RR 20, 24 x 50 ml tubes, horizontal mixing
RSE-RR 25	Rotator modul for RS-RR 20, 32 x 1,5 ml tubes, vertical mixing
RSE-RR 30	Rotator modul for RS-RR 20, 16 x 15 ml tubes, vertical mixing
RSE-RR 35	Rotator modul for RS-RR 20, 16 x 50 ml tubes, vertical mixing
RSE-RD 05	Disk modul for RS-RD 20, 60 x 1.5 ml tubes
RSE-RD 10	Disk modul for RS-RD 20, 16 x 15 ml tubes
RSE-RD 15	Disk modul for RS-RD 20, 8 x 50 ml tubes
RSE-RD 50	Adapter to use several disk modules
RSE-RD 20	12 x 1.5/2 ml holding clips for RS-RR 5 and RS-RD 5
RSE-RD 22	12 x 15 ml holding clips for RS-RR 5 and RS-RD 5
RSE-RD 24	12 x 50 ml holding clips for RS-RR 5 and RS-RD 5



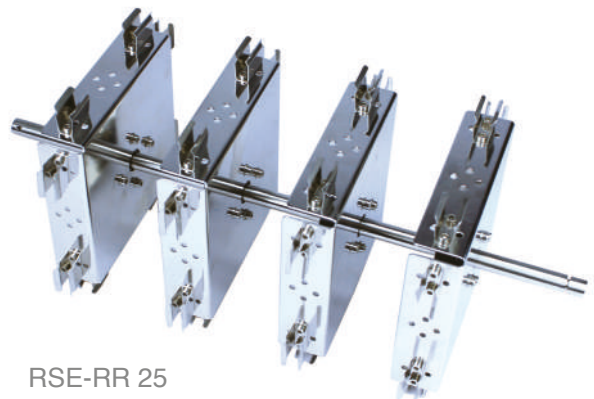
RSE-RD 05



RSE-RD 50



RSE-RR 5



RSE-RR 25

**Tube Roller RS-TR 5 / RS-TR 10**

Mixer

**RS-TR 5 / RS-TR 10**

- gentle mixing
- easy to use
- easy cleaning
- timer function (RS-TR 10 only)
- LCD display (RS-TR 10 only)



2 years warranty



Technical Data	RS-TR 5	RS-TR 10
Movement	Rocking and rolling	
No. of rolls / Length	6 / 280 mm	
Speed	5 - 70 rpm	
Timer-function	-	ja
Operation	continous	Timer / continous
Display Speed / Time	Skala	LCD / LCD
Adjustment Speed / Time	analog / -	digital / digital
Dimension	260 x 490 x 110 mm	
Protection class	IP 21	
Power	25 W	30 W
Voltage • Frequency	100 - 240 VAC • 50/60 Hz	
Weight	5.5 kg	5.6 kg

**Vortexer and Micro Plate Mixer RS-VF 10 • RS-VA 10 and RS-MM 10**



**RS-MM 10**

- compact Mixer suitable for 96er Micro titer plates
- adjustable speed
- various top frames available for RS-MM 10

*2 years warranty*



**RS-VF 10 • RS-VA 10**

- touch- or continuous
- variable speed 0 - 2,500 rpm (RS-VA 10)
- anti-slipping feet
- various top frames available for RS-VA 10
- sturdy cast housing

Technical Data	RS-VF 10	RS-VA 10	RS-MM 10
Shaking movement		orbital	
Shaking movement	4 mm		4.5 mm
Speed	2,500	0 - 2,500	0 - 1,500
Speed adjustment	-	knob	knob
Max. load	-		0.5 kg
Dimension	127 x 160 x 130 mm		150 x 80 x 260 mm
Protection class acc. EN60529		IP 21	
Dimension	155 x 215 x 100 mm		180 x 320 x 108 mm
Weight		3.5 kg	
Voltage • Frequency	100 - 240 VAC • 50/60 Hz		

## Vortexer and Microplate Mixer - Accessories

RSV-E 10	Universal top plate for tubes and vessels up to 30 mm Ø for Vortexer
RSV-E 12	Holding bar for RSV-E 20 – 40
RSV-E 15	100 mm plate with rubber mat for RSV-E 20-40, RSV-E 44
RSV-E 18	DNA -attachment 20 Tubes 10,5 mm Ø, Material PP
RSV-E 20	Adapter for 48 Tubes 6 mm Ø, to be used with RSV-E 15
RSV-E 25	Adapter for 15 Tubes 10 mm Ø, to be used with RSV-E 15
RSV-E 30	Adapter for 12 Tubes 12 mm Ø, to be used with RSV-E 15
RSV-E 35	Adapter for 8 Tubes 16 mm Ø, to be used with RSV-E 15
RSV-E 40	Adapter for 8 Tubes 20 mm Ø, to be used with RSV-E 15
RSV-E 44	Universal top plate for tubes and vessels up to 99 mm Ø for Vortexer
RSV-E 46	Rubber foot
RSV-E50	Attachment for micro plate mixer to be used with RSV-E20-40, RSV-E44
RSV-E 55	Microtiterplate-attachment for one plate for RS-MM 10
RSV-E 57	Microtiterplate-attachment for two plates for RS-MM 10
RSV-E 60	Vortexer universal attachment for tubes and vessels up to 99 mm Ø incl. RSV-E 15
RSV-E 65	Vortexer attachment with Microtiterplate RSV-E55



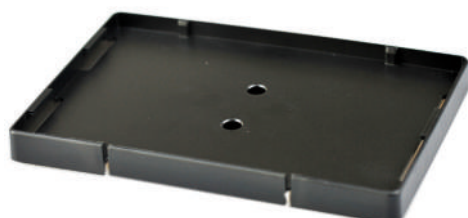
RSV-E 15



RSV-E 20-40



RSV-E 44



RSV-E 55



RSV-E 18

## Overhead Stirrer RSO-20/40 (analog and digital)



### RSO-20/40A

- digital speed readout
- stepless speed adjustment
- sturdy construction
- very quiet operation
- safety circuit

### RSO-20/40D

- digital stirrer with LCD-display
- microprocessor-controlled speed accuracy
- smooth start procedure
- selectable display of speed/torque
- RS 232 Interface

2 years warranty



Technical Data	RSO-20A	RSO-40A	RSO-20D	RSO-40D
Max. stirring quantity (H <sub>2</sub> O)	20 L	40 L	20 L	40 L
Speed	50 - 2,200 rpm, stepless			
Speed accuracy	-	-	±3	±3
Speed display	LED	LED	LCD	LCD
Max. viscosity	10,000 mPas	50,000 mPas	10,000 mPas	50,000 mPas
Max. torque	30 Ncm	60 Ncm	30 Ncm	60 Ncm
∅ Chuck range	0.5 - 10 mm			
Push trough shaft	yes			
Fastening on stand	Extension 16 mm			
Torque display	no		yes	
Dimension	82 x 220 x 186 mm			
Weight	2.5 kg	3.5 kg	2.5 kg	3.5 kg
Protection class	IP 42			
Motor rating input	70 W	130 W	70 W	130 W
Motor rating output	50 W	100 W	50 W	100 W
Voltage • Frequency	200 - 240 VAC • 50/60 Hz			



## Overhead Stirrer - Accessories



RSO-E07

- RSO-E 07 Plate stand
- RSO-E 10 Propeller stirrer with 4 blades, stirrer diameter 50 mm, shaft diameter 8 mm, shaft length 400 mm
- RSO-E 11 Paddle stirrer, stirrer diameter 70 mm, shaft diameter 8 mm, shaft length 400 mm
- RSO-E 12 Propeller stirrer with a flexible blade, stirrer diameter 60 mm, shaft diameter 8 mm, shaft length 400 mm
- RSO-E 13 Centrifugal stirrer, stirrer diameter 90 mm, shaft diameter 8 mm, shaft length 400 mm
- RSO-E 20 Propeller stirrer PTFE-coated with 4 blades, stirrer diameter 65 mm, shaft diameter 6 mm, length 350 mm
- RSO-E 21 Propeller stirrer PTFE-coated with 2 blades, stirrer diameter 70 mm, shaft diameter 6 mm, length 350 mm
- RSO-E 22 Paddle stirrer PTFE-coated, stirrer diameter 70 mm, shaft diameter 6 mm, length 350 mm
- RSO-E 23 Centrifugal stirrer PTFE-coated, stirrer diameter 90 mm, shaft diameter 6 mm, length 350 mm
- RSO-E 30 Strap clamp for vessels up to 200 mm, incl. Boss head clamp



RSO-E10



RSO-E11



RSO-E12



RSO-E13

## Thermoshaker RS-TS 5 and RS-TS10

### RS-TS 5 / RS-TS 10

- quick change of blocks due to magnetic holder
- automatic block recognition
- 9 programs
- efficient mixing
- precise temperature control
- heating and cooling function (depending on model)
- Wide range of block
- easy calibration



2 years warranty

RS-TS 10

Technical Data	RS-TS 5	RS-TS 10
Functions	Heating & mixing	Heating, cooling & mixing
Temp. range	RT to 99.9 °C	5 below RT to 99.9 °C
Temperature accuracy	±0.5 °C	
Overheat protection	150 °C	
Timer	0 min - 99.5 h	
Max. Heating speed	5.5 °C / min	
Max. Cooling speed	5 °C / min (100 °C-RT)	
Max. Cooling speed	-	0.5 °C / min (below RT)
Speed range	300 - 1,500 rpm	
Mixing orbit	3-orbital	
Adjustment Speed / Time	digital	
Dimension	200 x 235 x 120 mm	
Weight	7.3 kg	
Voltage • Frequency	200 - 240 VAC • 50/60 Hz	

## Thermoshaker - Accessories

		Hole (d x h)	Max. Speed	Lid
TSB-10	Heating block 24 x 0.5 ml	8.1 x 36 mm	1,500 rpm	yes
TSB-15	Heating block 24 x 1.5 ml	10.9 x 30.8 mm	1,500 rpm	yes
TSB-20	Heating block 24 x 2 ml	10.9 x 30.8 mm	1,500 rpm	yes
TSB-25	Heating block 8 x 5 ml	13.6 x 42 mm	1,500 rpm	no
TSB-30	Heating block 8 x 5 ml, conical	17 x 51.5 mm	1,400 rpm	yes
TSB-35	Heating block 8 x 15 ml	16.9 x 80 mm	800 rpm	no
TSB-40	Heating block 4 x 50 ml	29.6 x 80 mm	600 rpm	no
TSB-45	Heating block 96 well PCR Plates without frame		1,500 rpm	yes
TSB-50	Heating block 96/384 Mikrotiter plate		1,500 rpm	yes



TSB-10



TSB-25



TSB-40



TSB-15



TSB-30



TSB-45



TSB-20



TSB-35



TSB-50



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