

# Vortexer Tube Roller Orbital Shaker Linear Shaker Magnetic Stirrer



Vortexer



Magnetic Stirrer



Orbital and Linear Shaker



MIKROLAB AARHUS A/S

Tube Roller

## Stirrer, Mixer and Shaker

# Idea

PHOENIX INSTRUMENT GmbH starts with a new concept to comply customer demands for high-quality but also well-priced laboratory instruments.

# Implementation

Absolute customer orientation and satisfaction is the focus of all activities of PHOENIX INSTRUMENT.

# Your Benefit

As our customer you will take advantage of our long market experience, the attractive prices and the short delivery times. We guarantee comprehensive and competent consultations in all aspects and will always listen to your wishes, ideas and suggestions. It goes without saying that PHOENIX INSTRUMENT offers a technical service, if required.

## Stirrer, Mixer and Shaker

|                                                               |         |
|---------------------------------------------------------------|---------|
| Magnetic Stirrer with and without heating, analog and digital | Page 3  |
| Magnetic Stirrer Budget line, with and without heating        | Page 4  |
| Magnetic Stirrer with glass ceramic plate, with heating       | Page 5  |
| Multi place stirrer with and without heating                  | Page 6  |
| Accessories Magnetic Stirrer                                  | Page 6  |
| Digital Orbital- and Linearshaker                             | Page 7  |
| Analog Orbital- and Linearshaker                              | Page 8  |
| Digital Rocking- and 3D-Shaker                                | Page 9  |
| Analog Rocking- and 3D-Shaker                                 | Page 10 |
| Accessories Rocking- and 3D-Shaker                            | Page 11 |
| Incubation Shaker                                             | Page 12 |
| Digital Rotator and Disk mixer                                | Page 13 |
| Analog Rotator and Disk mixer                                 | Page 14 |
| Accessories Rotator and Disk mixer                            | Page 15 |
| Tuberoller                                                    | Page 16 |
| Vortexer, Mikroplate mixer                                    | Page 17 |
| Overhead Stirrer                                              | Page 18 |
| Accessories Overhead Stirrer                                  | Page 19 |

## Magnetic Stirrer RSM-01 • RSM-02

The magnetic stirrer of the RSM-line from PHOENIX INSTRUMENT offers the ideal products for the daily lab routine. The user can select between a digital and an analog version. As a matter of course both versions are available with a hotplate, either with stainless steel surface or porcelain enamel surface. We grant 2 years warranty on both models.

The comprehensive list of accessories includes everything you require from a stand bar over a temperature sensor and protection covers up to various top frames for reactor vessels.



RSM-01HP

### RSM-01

- Typical magnetic stirrer in a modern Design
- Hotplate with stainless steel or with porcelain surface
- Model RSM-01 HP and RSM-01 HS with hotplate
- sturdy metal housing IP 42
- high stirring power
- 2 years warranty



RSM-02HP

### RSM-02

- 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 display all parameter via Computer
- adjustable safety temperature (100-350°C)
- Indicator for hot surface, even when stirrer is shut-off
- comprehensive range of accessories
- 2 years warranty

| Technical data                            | RSM-01 HP                            | RSM-01 HS       | RSM-01 S        | RSM-02 HP                            | RSM-02 HS       |
|-------------------------------------------|--------------------------------------|-----------------|-----------------|--------------------------------------|-----------------|
| Voltage (V)                               | 200-240                              | 200-240         | 100-240         | 200-240                              | 200-240         |
| Power (W)                                 | 530                                  | 530             | 530             | 530                                  | 530             |
| max. stirr. quantity (l H <sub>2</sub> O) | 20                                   | 20              | 20              | 20                                   | 20              |
| Stirrer bar (max. in mm)                  | 80                                   | 80              | 80              | 80                                   | 80              |
| Plate (Ø mm)                              | 135                                  | 135             | 135             | 135                                  | 135             |
| Plate Material                            | Stainless steel<br>porcelain surface | Stainless steel | Stainless steel | Stainless steel<br>porcelain surface | Stainless steel |
| Speed                                     | 0-1500                               | 0-1500          | 0-1500          | 0-1500                               | 0-1500          |
| Adjustment of speed                       | analog                               | analog          | analog          | digital                              | digital         |
| Temperature range (°C)                    | RT-340                               | RT-340          | -               | RT-340                               | RT-340          |
| Adjustment of Temperature                 | analog                               | analog          | -               | digital                              | digital         |
| RS-232                                    | no                                   | no              | no              | yes                                  | yes             |
| Dimensions (mm)                           | 280 x 160 x 85                       | 280 x 160 x 85  | 280 x 160 x 85  | 280 x 160 x 85                       | 280 x 160 x 85  |
| Protection class                          | IP 42                                | IP 42           | IP 42           | IP 42                                | IP 42           |
| Weight (kg)                               | 2,8                                  | 2,8             | 2,8             | 2,8                                  | 2,8             |

## Budget Magnetic Stirrer RSM-10

New and unique magnetic stirrer of the budget level. Many important features of a standard instrument, such as the control of parameter via LED-Display, the integrated temperature control and the sealed construction (IP42) are part of the standard equipment of this very interesting line. The integrated temperature control allows an exact regulation of the sample when the temperature sensor PT-1000 is connected.

... and all that at very attractive and competitive prices.

### RSM-10A

- compact construction
- sealed housing (IP42)
- 2 years warranty

### RSM-10B

- LED-display for precise control of the speed
- digital speed regulation
- compact construction
- sealed housing (IP42)
- 2 years warranty



RSM-10 B



RSM-10 HS/HP

### RSM-10 HS/HP

- 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
- integrated temperature control function
- compact construction, sealed housing (IP42)
- 2 years warranty

#### Technical data

|                                             | RSM-10 HS       | RSM-10HP          | RSM-10A        | RSM-10B        |
|---------------------------------------------|-----------------|-------------------|----------------|----------------|
| Voltage (V)                                 | 200-240         | 200-240           | 100-240        | 100-240        |
| Max. stirring quantity (l H <sub>2</sub> O) | 3               | 3                 | 3              | 3              |
| Stirrer bar (max. in mm)                    | 50              | 50                | 50             | 50             |
| Speed (rpm)                                 | 100-1500        | 100-1500          | 0-1500         | 100-1500       |
| Display accuracy(rpm)                       | 10              | 10                | -              | 10             |
| Display                                     | LED             | LED               | analog, Scale  | LED            |
| Plate (mm)                                  | Ø135            | Ø135              | Ø135           | Ø135           |
| Surface                                     | Stainless steel | Porcelain surface | plastic        | plastic        |
| Temperature range (°C)                      | RT-280          | RT-280            | -              | -              |
| Temp. accuracy (°C)                         | 1               | 1                 | -              | -              |
| Control accuracy (°C)                       | ±2              | ±2                | -              | -              |
| Power (W)                                   | 500             | 500               | -              | -              |
| Safety temperature (°C)                     | 320             | 320               | -              | -              |
| Dimensions (mm)                             | 155 x 215 x 100 | 155 x 215 x 100   | 155 x 215 x 75 | 155 x 215 x 75 |
| Protection class                            | IP 42           | IP 42             | IP 42          | IP 42          |
| Weight (kg)                                 | 1,5             | 1,5               | 0,9            | 0,9            |

## Magnetic Stirrer with glass ceramic plate RSM-04H • RSM-05H

The magnetic stirrer RSM-04 and RSM-05 are characterized by an extrem sturdy construction and the excellent chemical resistance of the huge glass ceramic plate. The RSM-04 and the RSM-05 offers sufficient power even for thermic challenging task with a working temperature up to 550°C. The integrated temperature control allows an exact regulation of the sample when the temperature sensor PT-1000 is connected.



RSM-04H

| Technical data                           | RSM-04H                 | RSM-05H                 |
|------------------------------------------|-------------------------|-------------------------|
| Voltage (V)                              | 200-240                 | 200-240                 |
| Power(W)                                 | 1050                    | 1050                    |
| Max. stirring volume(l H <sub>2</sub> O) | 10                      | 20                      |
| Stirrer bars (max. in mm)                | 80                      | 80                      |
| Plate (mm), surface                      | 184 x 184 glass ceramic | 184 x 184 glass ceramic |
| Speed (rpm)                              | 100-1500                | 100-1500                |
| Temperature range (°C)                   | RT-550                  | RT-550                  |
| Safety temperature (°C)                  | 580                     | 100-580                 |
| Display                                  | LED                     | LCD                     |
| RS-232                                   | No                      | Yes                     |
| Dimensions (mm)                          | 215 x 340 x 110         | 215 x 340 x 110         |
| Protection class                         | IP 21                   | IP 21                   |
| Weight (kg)                              | 4,6                     | 4,4                     |



RSM-05H

### RSM-04H • RSM-05H

- sturdy full metal housing
- backlit digital display or LED
- glass ceramic hotplate
- selectable safety temperature (RSM-05H)
- hot plate warning
- connector for PT-1000
- integrated control function, no contact thermometer necessary
- RS-232 Interface (RSM-05H)
- high stirring volume, up to 20l with RSM-05H
- 2 years warranty

## Multi Channel Magnetic Stirrer RSM-03



RSM-03-16K



RSM-03-10KH

- 10-/16 channel magnetic stirrer
- Model RSM-03-10KH with hotplate
- sturdy construction (IP 42)
- stepless speed regulation
- stainless steel plate with silicone films, anti-slip and anti-corrosion
- uniform temperature distribution
- 2 years warranty

| Technical data                              | RSM-03-10KH                        | RSM-03-10K                         | RSM-03-16K                         |
|---------------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Voltage (V)                                 | 200-240                            | 100-240                            | 100-240                            |
| Power(W)                                    | 490                                | 20                                 | 20                                 |
| Stirring points                             | 10                                 | 10                                 | 16                                 |
| Max. stirring quantity (l H <sub>2</sub> O) | 0,4 / Stirring point               | 0,4 / Stirring point               | 0,4 / Stirring point               |
| Stirring point (Ø mm)                       | 85                                 | 85                                 | 85                                 |
| Stirring bar (max. in mm)                   | 40                                 | 40                                 | 40                                 |
| Material plate                              | Stainless steel with silicon films | Stainless steel with silicon films | Stainless steel with silicon films |
| Speed                                       | 0-1100                             | 0-1100                             | 0-1100                             |
| Speed control                               | analog                             | analog                             | analog                             |
| Temperature range (°C)                      | RT-120                             | -                                  | -                                  |
| Dimensions ( in mm)                         | 182 x 552 x 65                     | 182 x 552 x 65                     | 380 x 522 x 65                     |
| Protection class                            | IP 42                              | IP 42                              | IP 42                              |
| Weight (kg)                                 | 3,2                                | 3,2                                | 6                                  |

### Accessories Magnetic Stirrer

- RSM-E 100 Carrier plate for hotplate Stainless steel (RSM-01/02/10 HS)  
 RSM-E 110 Red quarter pie, 4ml reaction vessel, 9-holes, Ø 15,2 mm, depth 19 mm, to be used with RSM-E 100  
 RSM-E 120 Purple quarter pie 20 ml reaction vessel, 4-holes, Ø 28 mm, depth 24 mm, to be used with RSM-E 100  
 RSM-E 130 Blue quarter pie, 30 ml reaction vessel, 4-holes, Ø 28 mm, depth 30 mm, to be used with RSM-E 100  
 RSM-E 140 black Quarter pie, 40 ml reaction vessel, 4-holes, Ø 28 mm, depth 42,8 mm, to be used with RSM-E 100  
 RSM-E 150 green Quarter pie, 8 ml reaction vessel, 8-holes, Ø 17,75 mm, depth 25,5 mm, to be used with RSM-E 100  
 RSM-E 160 golden Quarter pie, 16ml reaction vessel, 4-holes, Ø 21,6 mm, depth 31,7 mm, to be used with RSM-E 100

- RSM-E 170 Reaction Block for round flask 50 ml  
 RSM-E 172 Reaction block for round flask 100 ml  
 RSM-E 174 Reaction block for round flask 250 ml  
 RSM-E 176 Reaction block for round flask 500 ml  
 RSM-E 310 Stirrer bar remover

- RSM-E 320 PT-1000 for RSM-04/05/10 H  
 RSM-E 330 Stand for RSM-01, -02, -04 and -05  
 RSM-E 335 Stand for RSM-10  
 RSM-E 340 Protection cover for RSM-01/02 without hotplate  
 RSM-E 350 Protection cover for RSM-01/02 with hotplate  
 RSM-E 360 Protection cover for RSM-10 HS/HP

Various Stirrer Bars  
on request



Quarter Pies  
on Carrier Plate

## Digital Linear- and Orbitalshaker RS-OS • RS-LS

A compact orbital and linear shaker with ideal swivel motion, for a maximum shaking weight of 7.5kg. The shakers can be set up individually by using the comprehensive range of accessories.

### RS-OS 10/20 • RS-LS 10/20

- compact shaker with a maximum capacity of 2,5/ 7,5 kg
- backlit display
- easy adjustment of time and speed
- fix stand with anti-slipping feet
- adjustable safety speed
- RS 232-interface
- 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        |
|--------------------------|-----------------|-----------------|-----------------|-----------------|
| Voltage (V)              | 100-240         | 100-240         | 100-240         | 100-240         |
| Power (W)                | 30              | 30              | 30              | 30              |
| Shaking movement         | orbital         | orbital         | linear          | linear          |
| Orbital diameter (mm)    | 4               | 10              | 4               | 10              |
| Max. shaking weight (kg) | 2,5             | 7,5             | 2,5             | 7,5             |
| Speed                    | 100-800         | 100-500         | 100-350         | 100-350         |
| Timer-Function           | yes             | yes             | yes             | yes             |
| Operation                | Time/Continuous | Time/Continuous | Time/Continuous | Time/Continuous |
| Display                  | LCD/LCD         | LCD/LCD         | LCD/LCD         | LCD/LCD         |
| Adjustment Speed/Time    | digital/digital | digital/digital | digital/digital | digital/digital |
| RS-232                   | yes             | yes             | yes             | yes             |
| Dimensions (mm)          | 340 x 300 x 100 | 420 x 370 x 100 | 340 x 300 x 100 | 420 x 370 x 100 |
| Dimensions Platform (mm) | 240 x 240       | 320 x 320       | 240 x 240       | 320 x 320       |
| Protection Class         | IP 21           | IP 21           | IP 21           | IP 21           |
| Weight (kg)              | 8,1             | 13,5            | 8,1             | 13,5            |

## Analog Orbital- and Linear Shaker RS-OS 5 • RS-LS 5

New economic laboratory shaker of the Phoenix RS-OS and RS-LS-line for gentle and effective sample mixing. Both versions have a max. shaking weight of 3 kg. An individual configuration of your shaker is easily possible by using the comprehensive range of accessories and all that at very competitive prices.

### RS-OS 5 • RS-LS 5

- compact lab shaker with a max. capacity of 3 kg
- stable stand, adjustable feet
- Disk attachment included
- comprehensive range of accessories
- 2 years warranty



RS-OS 5

| Technical data           | RS-OS 5         | RS-LS-5         |
|--------------------------|-----------------|-----------------|
| Voltage (V)              | 100-240         | 100-240         |
| Power (W)                | 30              | 30              |
| Shaking movement         | orbital         | linear          |
| Diameter max. (mm)       | 20              | 20              |
| Max. shaking weight (kg) | 3               | 3               |
| Speed                    | 0-200           | 0-200           |
| Timer function           | no              | no              |
| Operation                | Continuous      | Continuous      |
| Display                  | Scale           | Scale           |
| Adjustment Speed/Time    | analog          | analog          |
| RS-232                   | yes             | yes             |
| Dimension (mm)           | 330 x 270 x 110 | 330 x 270 x 110 |
| Platform size (mm)       | 240 x 240       | 240 x 240       |
| Protection class         | IP 21           | IP 21           |
| Weight                   | 3,1             | 3,1             |

## Digital Rocking and 3D Shaker RS-RR 10 • RS-RD 10

New and powerful shaker for gentle mixing of samples. The adjustment and control of speed and time can be done easily via the LCD-Display with this fully digital version. An individual configuration of your shaker is easily possible by using the comprehensive range of accessories.

### 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



RS-RD 10



RS-RR 10

#### Technical data

|                           | RS-RR 10           | RS-RD 10           |
|---------------------------|--------------------|--------------------|
| Voltage/Frequency (V, Hz) | 100-240 / 50-60    | 100-240 / 50-60    |
| Shaking movement          | Sea-Saw rocking    | 3D orbital         |
| Angle (°)                 | ±9                 | ±9                 |
| Speed (rpm)               | 0-70               | 0-70               |
| Display                   | LCD                | LCD                |
| Timer function (min)      | yes, 1-1199        | yes, 1-1199        |
| Operation                 | Timer / Continuous | Timer / Continuous |
| Capacity (kg)             | 10                 | 5                  |
| Dimension (mm)            | 410 x 360 x 106    | 430 x 360 x 200    |
| Platform Size (mm)        | 320 x 320          | 320 x 320          |
| Ambient Temperature (°C)  | 5 - 40             | 5-40               |
| Protection class          | IP 21              | IP 21              |
| Weight (kg)               | 9                  | 9                  |

## Analog Rocking and 3D-Shaker RS-RS 5 • RS-DS

New economic laboratory shaker of the Phoenix RS-RS and RS-DS-line for gentle and effective sample mixing. Both versions have a max. shaking weight of 3 kg. An individual configuration of your shaker is easily possible by using the comprehensive range of accessories and all that at very competitive prices.



### RS-RS 5 - RS-DS 5

- compact laboratory shaker with a max. capacity of 3 kg
- stable stand and adjustable feet
- Disk attachment included
- comprehensive range of accessories
- 2 years warranty

RS-DS 5

| Technical data           | RS-RS 5         | RS-DS 5         |
|--------------------------|-----------------|-----------------|
| Voltage (V)              | 100-240         | 100-240         |
| Power (W)                | 30              | 30              |
| Shaking movement         | Sea-Saw rocking | 3D orbital      |
| Angle                    | ± 7°            | ± 7°            |
| Max. Shaking weight (kg) | 3               | 3               |
| Speed                    | 0-80            | 0-80            |
| Timer function           | no              | no              |
| Operation                | Continuous      | Continuous      |
| Display Speed / Time     | scale           | scale           |
| Adjustment Speed         | analog          | analog          |
| Dimension (mm)           | 330 x 270 x 110 | 330 x 270 x 110 |
| Platform size (mm)       | 240 x 240       | 240 x 240       |
| Protection class         | IP 21           | IP 21           |
| Weight (kg)              | 2,9             | 3,2             |

## Shaker Accessories

- RSS-E 100 Universal attachment with clamping rolls for OS/LS 5/10  
 RSS-E 105 Base plate for OS/LS 5/10 to be used with Erlenmeyer-clips  
 RSS-E 110 Universal attachment with vertical adjustable clamping rolls for OS/LS 5/10  
 RSS-E 115 Dish attachment for OS/LS 5/10

- RSS-E 200 Universal attachment with clamping rolls for OS/LS 20  
 RSS-E 205 Base plate for OS/LS 20 to be used with Erlenmeyer-clips  
 RSS-E 210 Universal attachment with vertical adjustable clamping rolls for OS/LS 20

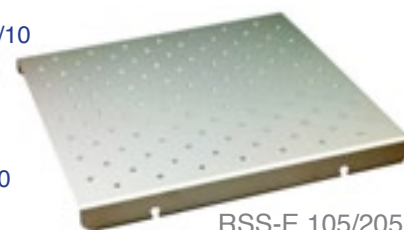
- RSS-E 220 Attachment for 2D- and 3D-Shaker

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

- RSS-E 145 clamping rolls for universal attachment OS/LS 5/10  
 RSS-E 245 clamping rolls for universal attachment OS/LS 20

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

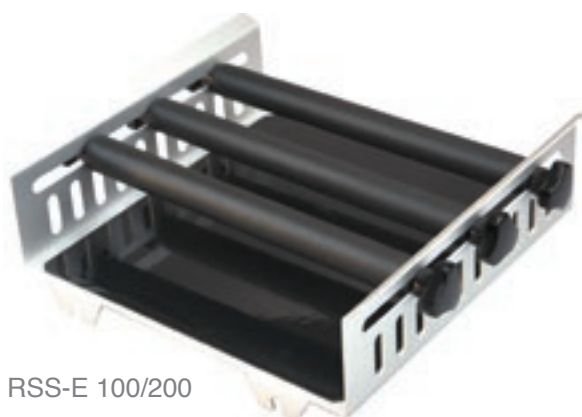
- RSS-E 253 100 ml culture flask with baffles  
 RSS-E 254 250 ml culture flask with baffles  
 RSS-E 255 500 ml culture flask with baffles



RSS-E 105/205



RSS-E 220



RSS-E 100/200



RSS-E 120



RSS-E 125



RSS-E 130

### Fixing Clips for Erlenmeyer Flasks



RSS-E 135



RSS-E 140

### Maximum attachment RSS-E 105/205 with Fixing Clips for Erlenmeyer Flasks

| Att. / Fixing Clip | 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

## Incubation Shaker IS-OS 20

The new shaking incubator IS-OS 20 combines two typical laboratory operation in one instrument: shaking and incubation of samples. It is ideal for cell culture, solubility studies, extraction procedures and many other laboratory applications. The built-in fan guarantees a uniform distribution of the temperature.

IS-OS20 will be supplied with a standard platform equipped with flexible springs that can accommodate many type of flasks, becker, tubes with different sizes.



IS-OS 20

| Technical data                      | IS-OS 20                                                    |
|-------------------------------------|-------------------------------------------------------------|
| Temperature range / Resolution (°C) | RT+5-60 / 0,1                                               |
| Temperature dispersal (at 37 °C)    | ± 0,5                                                       |
| Temperature accuracy ( °C)          | ± 0,1                                                       |
| Operation                           | 99:59 and Continuous                                        |
| Air circulation                     | forced                                                      |
| Speed (rpm)                         | 40...300                                                    |
| Amplitude of movement (mm)          | 20                                                          |
| Capacity                            | 7 x 500 ml Erlenmeyer Flask<br>4 x 1000 ml Erlenmeyer Flask |
| Dimension Platform (mm)             | 320 x 320                                                   |
| Power (W)                           | 500                                                         |
| Dimensions (mm)                     | 500 x 610 x 470                                             |
| Material of hood / Thickness (mm)   | Plexiglas / 8                                               |
| Weight (kg)                         | 40                                                          |
| Adjustable safety temperature       | yes                                                         |
| Safety control „opening door“       | yes                                                         |



ISS-E 100  
(with Fixing Clips)

### Accessories

|           |                                                                     |
|-----------|---------------------------------------------------------------------|
| ISS-E 100 | Baseplate to be used with fixing clips for Erlenmeyer-flasks        |
| ISS-E 130 | Fixing clip 100 ml for Erlenmeyer flasks (max. 16 pro ISS-E 100)    |
| ISS-E 135 | Fixing clip 200/250 ml for Erlenmeyer flasks (max. 9 pro ISS-E 100) |
| ISS-E 140 | Fixing clip 500 ml for Erlenmeyer flasks (max. 9 pro ISS-E 100)     |
| ISS-E 150 | Fixing clip 1000 ml for Erlenmeyer flasks (max. 4 pro ISS-E 100)    |

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

New and high-value rotator for gentle and effective mixing samples in various tubes and flasks. Adjustment and control of the parameter speed and time can be done easily via the LCD-display. Various drum tube holders (for model-no. RS-RR20) and disk tube holders (for model-no. RS-RD20) are available as accessories. The RS-RR 20 can easily be converted into a disk mixer.



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
- 2 years warranty

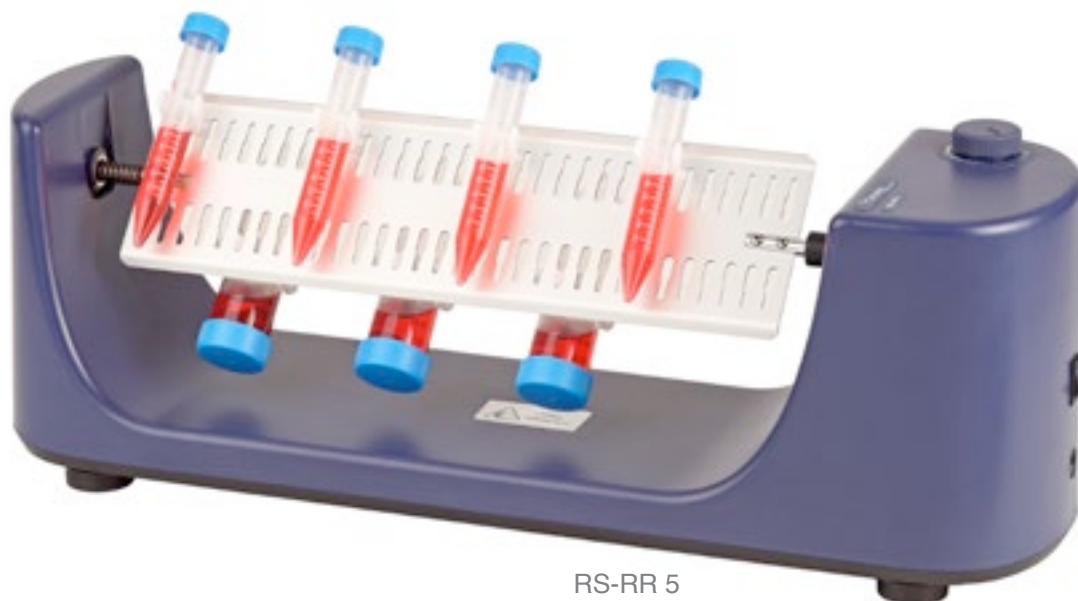


RS-RD 20

| Technical data             | RS-RR 20        | RS-RD 20        |
|----------------------------|-----------------|-----------------|
| Voltage (V/Hz)             | 100-240         | 100-240         |
| Shaking movement           | 40              | 40              |
| Angle Range (°C)           | Rotation        | Rotation Disc   |
| Speed (rpm)                | -               | 0-90°           |
| Display                    | 10-70           | 10-70           |
| Timer-Function (Min)       | yes             | yes             |
| Operation                  | Time/Continuous | Time/Continuous |
| Oscillation braking device | LCD/LCD         | LCD/LCD         |
| Dimensions (in mm)         | digital/digital | digital/digital |
| Ambient temperature (°C)   | 510 x 190 x 260 | 250 x 190 x 260 |
| Protection class           | IP 21           | IP 21           |
| Weight (kg)                | 8               | 6,5             |

## Analog Rotator and Discmixer RS-RR 5 • RS-RD 5

New economic Rotator and Disk mixer of the Phoenix RS-RR and RS-RD-line for gentle and effective sample mixing. Both versions have a max. shaking weight of 3 kg. An individual configuration of your shaker is easily possible by using the comprehensive range of accessories and all that at very competitive prices.



RS-RR 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-RD 5

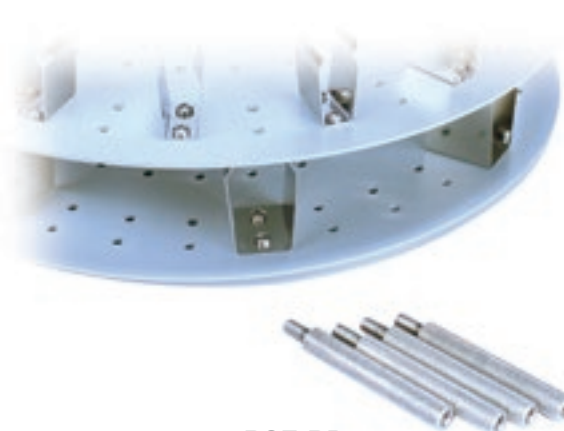
| Technical data     | RS-RR 5         | RS-RR 5          |
|--------------------|-----------------|------------------|
| Voltage (V)        | 100-240         | 100-240          |
| Power (W)          | 20              | 20               |
| Movement           | Rotation        | Rotation Disk    |
| Rotation angle     | -               | 90°              |
| Speed              | 0-80            | 0-80             |
| Timer              | -               | -                |
| Operation          | Continuous      | Continuous       |
| Display Speed/Time | Scale           | Scale            |
| Speed adjustment   | analog          | analog           |
| Dimension (mm)     | 530 x 150 x 190 | 2200 x 300 x 310 |
| Protection class   | IP 21           | IP 21            |
| Weight (kg)        | 1,7             | 2                |

## Rotator and Discmixer Accessories

|           |                                                     |
|-----------|-----------------------------------------------------|
| RSE-RR 05 | Rotator modul for RS-RR 20, 48 x 1,5 ml tubes       |
| RSE-RR 10 | Rotator modul for RS-RR 20, 24 x 15 ml tubes        |
| RSE-RR 15 | Rotator modul for RS-RR 20, 24 x 50 ml tubes        |
| RSE-RR 25 | Rotator modul for RS-RR 20, 32 x 1,5 ml tubes       |
| RSE-RR 30 | Rotator modul for RS-RR 20, 16 x 15 ml tubes        |
| RSE-RR 35 | Rotator modul for RS-RR 20, 16 x 50 ml tubes        |
| 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 50ml tubes             |
| RSE-RD 50 | Adapter to use several disk moduls                  |
| RSE-RD 20 | 12 x 1,5/2 ml Fixing Clips for RS-RR 5 and RS-RD 5  |
| RSE-RD 22 | 12 x 15 ml Fixing Clips for for RS-RR 5 and RS-RD 5 |
| RSE-RD 24 | 12 x 50 ml Fixing Clips for RS-RR 5 and RS-RD 5     |



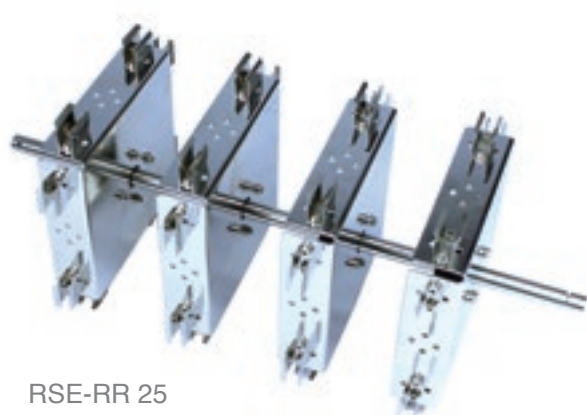
RSE-RD 05



RSE-RD 50



RSE-RR 5



RSE-RR 25

## Tube Roller RS-TR 5/10

The new tube rollers provides gentle and effective mixing by rocking and rolling action. The adjustment and control of the parameter speed and time can be done easily via LCD Display on the digital version RS-TR 10. On the analog version RS-TR 5 the adjustment will be done with a knob and a scale. We are offering 2 years warranty on both instruments.



RS-TR 5



RS-TR 10

| Technical data     | RS-TR 5             | RS-TR 10            |
|--------------------|---------------------|---------------------|
| Voltage (V/Hz)     | 100-240             | 100-240             |
| Power (W)          | 25                  | 30                  |
| Shaking movement   | Rocking and rolling | Rocking and rolling |
| Number of rolls    | 6                   | 6                   |
| Speed (rpm)        | 0-70                | 10-70               |
| Timer function     | -                   | yes                 |
| Operation          | Continuous          | Time/Continuous     |
| Display Speed/Time | Scale               | LCD/LCD             |
| Timer function     | analog              | digital/digital     |
| Dimensions (mm)    | 460 x 260 x 120     | 530 x 260 x 120     |
| Protection class   | IP 21               | IP 21               |
| Weight (kg)        | 4,5                 | 5,5                 |

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

The new Vortex mixer is suitable for touch or continuous operation. The compact, universal small Micro plate Mixer is suitable for small vessels and 96 micro titer plates and guarantees a wide range of attachments, easy installation and replacement.



**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 0-2500 rpm (RS-VA 10)
- anti-slipping feet
- various top frames available for RS-VA 10
- sturdy cast housing
- 2 years warranty

### Accessories

RSV-E 10 Universal attachment for Tubes and fessels up to 30 mm Ø

RSV-E 44 Universal attachment for Tubes and fessles up to 99 mm Ø  
(in connetion with RSV-E 15)

RSV-E 12 Holding bar for RSV-E 20-40

RSV-E 15 100 mm Plate, incl. rubber feet, for Vortexer

RSV-E 20 Tube adapter for 48 Tubes 6 mm Ø, to be used with RSV-E 15

RSV-E 25 Tube adapter for 15 Tubes 10 mm Ø, to be used with RSV-E 15

RSV-E 30 Tube adapter for 12 Tubes 12 mm Ø, to be used with RSV-E 15

RSV-E 35 Tube adapter for 8 Tubes 16 mm Ø, to be used with RSV-E 15

RSV-E 40 Tube adapter for 8 Tubes 20 mm Ø, to be used with RSV-E 15

RSV-E 46 Rubber feet

RSV-E 50 Universal attachment for Micro titer plate mixer  
to be used with RSV-E 20-40

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 15



RSV-E 20-40



RSV-E 44



RSV-E 55

### Technical data

|                       | RS-VF 10        | RS-VA 10        | RS-MM 10       |
|-----------------------|-----------------|-----------------|----------------|
| Voltage (V)           | 100-240         | 100-240         | 100-240        |
| Power (W)             | 60              | 60              | 20             |
| Shaking movement      | orbital         | orbital         | orbital        |
| Orbital diameter (mm) | 4               | 4               | 4,5            |
| Speed                 | 0-2500          | 0-2500          | 0-1500         |
| Speed adjustment      | Switch          | -               | Switch         |
| max. load (kg)        | -               | -               | 0,5            |
| Dimension (mm)        | 127 x 160 x 130 | 127 x 160 x 130 | 150 x 80 x 260 |
| Protection class      | IP 21           | IP 21           | IP 21          |
| Weight (kg)           | 3,5             | 3,5             | 3              |



RSV-E 18

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

The new line of overhead stirrer RSO-20 and RSO-40 convinces with outstanding characteristics and a brilliant price/performance ratio.



RSO-40D

### RSO-20/40A

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

### RSO-20/40D

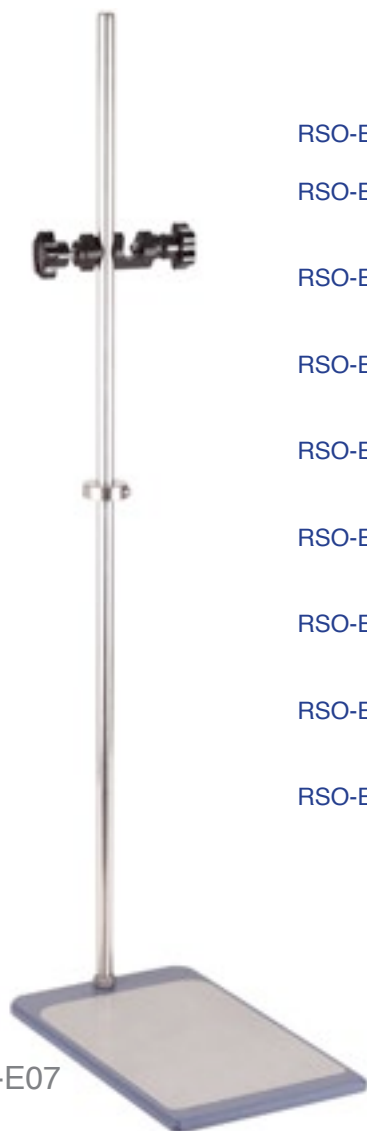
- digital stirrer with LCD-display
- micro-processor controlled speed accuracy
- smooth start procedure
- selectable display of speed/torque
- RS 232 Interface
- 2 years warranty



RSO-20A

| Technical data                              | RSO-20A          | RSO-40A          | RSO-20D           | RSO-40D           |
|---------------------------------------------|------------------|------------------|-------------------|-------------------|
| Max. stirring quantity (l H <sub>2</sub> O) | 20 l             | 40 l             | 20 l              | 40                |
| Motor rating input (W)                      | 70               | 130              | 70                | 130               |
| Motor rating output                         | 50               | 100              | 50                | 100               |
| Speed (rpm)                                 | 0-2200, stepless | 0-2200, stepless | 55-2200, stepless | 50-2200, stepless |
| Speed accuracy                              | -                | -                | ± 3               | ± 3               |
| Display                                     | LED              | LED              | LCD               | LCD               |
| Max. Viscosity (mPas)                       | 10.000           | 50.000           | 10.000            | 50.000            |
| Max. torque (Ncm)                           | 30               | 60               | 30                | 60                |
| Ø chuck range (mm)                          | 0,5-10           | 0,5-10           | 0,5-10            | 0,5-10            |
| Push through shaft                          | yes              | yes              | yes               | yes               |
| Fastening on stand                          | Extension 16 mm  | Extension 16 mm  | Extension 16 mm   | Extension 16 mm   |
| Torque display                              | no               | no               | no                | no                |
| Dimension (in mm)                           | 83 x 220 x 186   | 83 x 220 x 186   | 83 x 220 x 186    | 83 x 220 x 186    |
| Weight (kg)                                 | 2,5              | 3,5              | 2,5               | 3,5               |
| Protection class I                          | IP 21            | IP 21            | IP 21             | IP 21             |
| RS-232                                      | no               | no               | no                | no                |
| Voltage (V)                                 | 100-240          | 100-240          | 100-240           | 100-240           |
| Frequency (Hz)                              | 50/60            | 50/60            | 50/60             | 50/60             |

## Overhead Stirrer Accessories



- RSO-E 07 Plate stand with holding clamp and limiter
- 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, shaft 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, shaft length 350 mm
- RSO-E 21 Propeller stirrer PTFE-coated with 2 blades, stirrer diameter 70 mm,  
Shaft diameter 6 mm, shaft length 350 mm
- RSO-E 22 Paddle stirrer PTFE-coated, stirrer diameter 70 mm,  
Shaft diameter 6 mm, shaft length 350 mm
- RSO-E 23 Centrifugal stirrer PTFE-coated, shaft diameter 90 mm,  
Shaft diameter 6 mm, shaft length 350 mm





In addition to Stirrer and Shaker Phoenix Instrument also offers Rotary Evaporator, Balances, Centrifuges, Liquid Handling, Water baths, Incubator, Ovens, pH- and conductivity meter



**Mikrolab Aarhus A/S** - Axel Kiers Vej 34 - DK-8270 Højbjerg

Tel: +45 8629 6111 - Fax: +45 8629 6122 - E-mail: [ml@mikrolab.dk](mailto:ml@mikrolab.dk) - [www.mikrolab.dk](http://www.mikrolab.dk)

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[info@phoenix-instrument.de](mailto:info@phoenix-instrument.de) • Tel. +49 (5131) 90818 -30  
Heinkelstr. 10 • D-30827 Garbsen • [www.phoenix-instrument.de](http://www.phoenix-instrument.de)

