

DRAGON LAB

CATALOGUE

www.dragon-lab.com

DRAGON LAB

DRAGON LAB

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www.dragon-lab.com

2014.02

2014

ROTARY EVAPORATORS

CENTRIFUGES

DISTILLING & MIXING

LIQUID HANDLING



company profile

Dragon Laboratory Instruments Limited, founded in 1992, has established its factory in China's capital Beijing. We are a professional manufacturer of high quality laboratory instruments for research. Our company is dedicated to developing and manufacturing general laboratory instruments, offering researchers unmatched performance and proven value.

All Dragon Lab instruments are designed and manufactured in accordance with ISO9001/13485. Our goal is to be a one-stop supply of a wide range general laboratory devices& instruments, covering the chemical, biological and clinical diagnostic labs. Dragon Lab's technical experts provide data support in a timely and effective manner. Through our dedicated and experienced R&D team and sourcing capability, we have the capability to provide you with the most cost-effective and timely solutions. We bring quality, accuracy and convenience to our customers, so they can efficiently conduct their experiments and enjoy their research process at the same time.

OEM&ODM are available on request. Dragon Lab is experienced in developing and providing customized instruments to suit all OEM applications. We are partners with many prestigious companies throughout the world.



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DRAGONLAB products are manufactured in accordance with ISO9001 and ISO13485. All products comply with EU and North America standards, CE, cTÜVus, FCC marked and subjected to the strict QC control.

DRAGONLAB instruments are tested and conform to the following safety and EMC standards:

EN 61010-1

UL 3101-1

CAN/CSA C22.2(1010-1)

EN 61010-2-10

EN 61326-1

EMC-guidelines: 89/336/EWG

Instrument guidelines: 73/023/EWG

Liquid Handling

TopPette Mechanical Pipettes

Features for TopPette

- Light weight, ergonomic, low force design
- Digital display clearly reads volume setting
- The pipettes cover volume range of 0.1µL to 10mL
- Easy to calibrate and maintain with tool supplied
- Design helps avoid repetitive strain injuries
- Calibrated in accordance with ISO8655. Each pipette supplied with individual test certificate
- The lower section can be autoclaved

Simply turn the plunger button for volume selection

Finger support with minimum user effort

Tip ejector allows convenient one-handed operation

Ejector collar and tip cone can be removed

Durable tip cone materials
Provide excellent chemical resistance





12 channels



8 channels

Features for multi-channel TopPette

- 8 and 12 channel pipettes are available for standard 96-well plate
- Dispensing head rotates for optimum pipetting convenience
- Individual piston and tip cone assemblies allow easy repair and maintenance
- Compound material tip cone design allows visual seal verification
- Can be used with universal style pipette tips

Pipette with switch

DRAGONLAB Pipettes can be stopped with an on/off switch and cable. This can be used with coagulation analyzers or any other instruments that require precise timing.



MicroPette Mechanical Pipettes

Features for MicroPette

- Light pipetting forces and ergonomic design
- Clear and easy-to-read display with large numbers and small increments
- The pipettes cover volume range of 0.1µL to 10mL
- Easy to calibrate and maintain with tool supplied
- Manufactured from innovative materials
- Calibrated in accordance with ISO8655. Each pipette supplied with individual test certificate
- The lower section can be autoclaved



Simply turn the plunger button for volume selection

Finger support with minimum user effort

Tip ejector allows convenient one-handed operation

Ejector collar and tip cone can be removed

Durable tip cone materials provide excellent chemical resistance

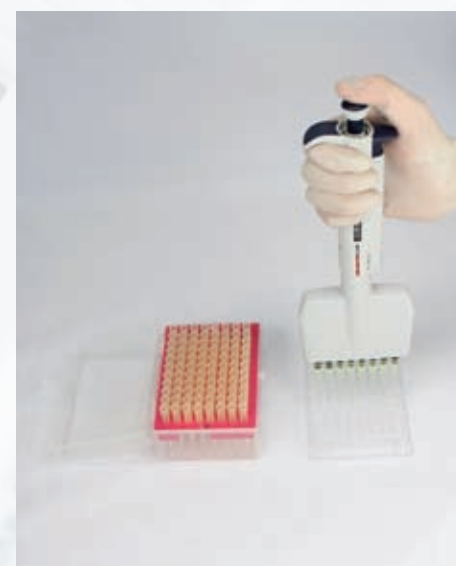




12 channels



8 channels



Features for multi-channel MicroPette

- 8 and 12 channel pipettes are available for standard 96-well plate
- Dispensing head rotates for optimum pipetting convenience
- Individual piston and tip cone assemblies allow easy repair and maintenance
- Compound material tip cone design allows visual seal verification
- Can be used with universal style pipette tips

Calibration

All DRAGONLAB pipettes have been quality tested according to ISO8655-2:2002 and with calibration certificates. The quality control involves gravimetric testing of each pipette with distilled water at 22°C.

Please visit the DRAGONLAB website for online calibration at www.dragon-lab.com. Using the online calibration software, users can perform simple, accurate and timely calibrations at no cost, and avoid calibration errors due to non-professional operation.

We will support and help you to achieve consistent excellent results.



MicroPette Plus Autoclavable Pipettes

Features for MicroPette plus

- Fully autoclavable
- Light pipetting forces and ergonomic design
- Clear and easy-to-read display with large numbers and small increments
- The pipettes cover volume range of 0.1µL to 10mL
- Easy to calibrate and maintain with tool supplied
- Manufactured from innovative material
- Calibrated in accordance with ISO8655. Each pipette supplied with individual test certificate



Simply turn the plunger button for volume selection

Finger support with minimum user effort

Tip ejector allows convenient one-handed operation

Ejector collar and tip cone can be removed

Durable tip cone materials provide excellent chemical resistance





12 channels



8 channels

Features for multi-channel MicroPette plus

- 8 and 12 channel pipettes are available for standard 96-well plate
- Dispensing head rotates for optimum pipetting convenience
- Individual piston and tip cone assemblies allow easy repair and maintenance
- Compound material tip cone design allows visual seal verification
- Can be used with universal style pipette tips

Fully autoclavable

The MicroPette Plus pipettes can be fully autoclaved and withstood steam sterilization at 121°C, 1 atm for 20 minutes. The pipettes can be autoclaved without special preparation. After autoclaving the pipette must be cooled down and left to dry for 12 hours.

It is recommended to check the performance of the pipette after each autoclaving. It is also recommended to grease the piston and seal of the pipette after every 10 autoclave cycles.



MicroPette Plus Autoclavable Pipettes

Specifications

TopPette/ MicroPette / MicroPette Plus Mechanical
Pipettes (Adjustable and Fixed Volume)

Single-channel Adjustable Volume Pipettes						
Volume Range	Increment	Test Volume	Maximum permissible systematic error (Inaccuracy)		Maximum permissible random error (Imprecision)	
			%	µL	%	µL
0.1-2.5µL	0.05µL	2.5µL	2.50%	0.0625	2.00%	0.05
		1.25µL	3.00%	0.0375	3.00%	0.0375
		0.25µL	12.00%	0.03	6.00%	0.015
0.5-10µL	0.1µL	10µL	1.00%	0.1	0.80%	0.08
		5µL	1.50%	0.075	1.50%	0.075
		1µL	2.50%	0.025	1.50%	0.015
2-20µL	0.5µL	20µL	0.90%	0.18	0.40%	0.08
		10µL	1.20%	0.12	1.00%	0.1
		2µL	3.00%	0.06	2.00%	0.04
5-50µL	0.5µL	50µL	0.60%	0.3	0.30%	0.15
		25µL	0.90%	0.225	0.60%	0.15
		5µL	2.00%	0.1	2.00%	0.1
10-100µL	1µL	100µL	0.80%	0.8	0.15%	0.15
		50µL	1.00%	0.5	0.40%	0.2
		10µL	3.00%	0.3	1.50%	0.15
20-200µL	1µL	200µL	0.60%	1.2	0.15%	0.3
		100µL	0.80%	0.8	0.30%	0.3
		20µL	3.00%	0.6	1.00%	0.2
50-200µL	1µL	200µL	0.60%	1.2	0.15%	0.3
		100µL	0.80%	0.8	0.30%	0.3
		50µL	1.00%	0.5	0.40%	0.2
100-1000µL	5µL	1000µL	0.60%	6	0.20%	2
		500µL	0.70%	3.5	0.25%	1.25
		100µL	2.00%	2	0.70%	0.7
200-1000µL	5µL	1000µL	0.60%	6	0.20%	2
		500µL	0.70%	3.5	0.25%	1.25
		200µL	0.90%	1.8	0.30%	0.6
1000-5000µL	50µL	5000µL	0.50%	25	0.15%	7.5
		2500µL	0.60%	15	0.30%	7.5
		1000µL	0.70%	7	0.30%	3
2-10mL	0.1mL	10mL	0.60%	60	0.20%	20
		5mL	1.20%	60	0.30%	15
		2mL	3.00%	60	0.60%	12



8-channel Adjustable Volume Pipettes

Volume Range	Increment	Test Volume	Maximum permissible systematic error (Inaccuracy)		Maximum permissible random error (Imprecision)	
			%	µL	%	µL
0.5-10µL	0.1µL	10µL	1.50%	0.15	1.50%	0.15
		5µL	2.50%	0.125	2.50%	0.125
		1µL	4.00%	0.04	4.00%	0.04
5-50µL	0.5µL	50µL	1.00%	0.5	0.50%	0.25
		25µL	1.50%	0.375	1.00%	0.25
		5µL	3.00%	0.15	2.00%	0.1
50-300µL	5µL	300µL	0.70%	2.1	0.25%	0.75
		150µL	1.00%	1.5	0.50%	0.75
		50µL	1.50%	0.75	0.80%	0.4

12-channel Adjustable Volume Pipettes

Volume Range	Increment	Test Volume	Maximum permissible systematic error (Inaccuracy)		Maximum permissible random error (Imprecision)	
			%	µL	%	µL
0.5-10µL	0.1µL	10µL	1.50%	0.15	1.50%	0.15
		5µL	2.50%	0.125	2.50%	0.125
		1µL	4.00%	0.04	4.00%	0.04
5-50µL	0.5µL	50µL	1.00%	0.5	0.50%	0.25
		25µL	1.50%	0.375	1.00%	0.25
		5µL	3.00%	0.15	2.00%	0.1
50-300µL	5µL	300µL	0.70%	2.1	0.25%	0.75
		150µL	1.00%	1.5	0.50%	0.75
		50µL	1.50%	0.75	0.80%	0.4

Fixed Volume Pipettes

Volume Range	Increment	Test Volume	Maximum permissible systematic error (Inaccuracy)		Maximum permissible random error (Imprecision)	
			%	µL	%	µL
5µL	-	5µL	1.3%	0.065	1.2%	0.06
10µL	-	10µL	0.8%	0.08	0.8%	0.08
20µL	-	20µL	0.6%	0.12	0.5%	0.1
25µL	-	25µL	0.5%	0.125	0.3%	0.075
50µL	-	50µL	0.5%	0.25	0.3%	0.15
100µL	-	100µL	0.5%	0.5	0.3%	0.3
200µL	-	200µL	0.4%	0.8	0.2%	0.4
250µL	-	250µL	0.4%	1.0	0.2%	0.5
500µL	-	500µL	0.3%	1.5	0.2%	1.0
1000µL	-	1000µL	0.3%	3.0	0.2%	2.0
2000µL	-	2000µL	0.3%	6.0	0.15%	3.0
5000µL	-	5000µL	0.3%	15	0.15%	7.5

Pipette Stands

The linear and round stands have been perfectly designed to fit of DRAGONLAB Pipette range, TopPette, MicroPette and MicroPette Plus Autoclavable Pipettes. The stands are a convenient way to hold up 6 pipettes both of single and multi-channel



The linear stand can hold up to 6 single and multi-channel pipettes



The round stand rotates smoothly and comfortably hold up to 6 pipettes



The StepMate Stepper is Ideal for routine or research applications in diagnostics, molecular biology, environmental analysis, and many more.

The StepMate Stepper works on the positive displacement principle. This offers the highest precision dispensing of liquid media with high viscosity, high density, or high vapor pressure. It can also provide up to 48 dispensing steps, thereby improving work efficiency greatly.

Features

- Lightweight and ergonomic
- One-hand operation
- Factory calibrated
- Volume range from 1 μ L to 5 mL
- Up to 48 dispensing steps
- Maintenance free
- Equipped with durable tip insertion lever
- Works with seven sizes of disposable, polypropylene syringes from 0.5mL to 50mL

Select the Dispensing Volume

- Find the required dispensing volume
- Use the adjusting wheel to set the required volume
- Select and inserting suitable tips
- Confirm the maximum dispensing steps

Select suitable tips		Dispensing Volume				
Tips	Sel.	1	2	3	4	5
0.05ml		1 μ L	2 μ L	3 μ L	4 μ L	5 μ L
0.50ml		10 μ L	20 μ L	30 μ L	40 μ L	50 μ L
1.25ml		25 μ L	50 μ L	75 μ L	100 μ L	125 μ L
2.50ml		50 μ L	100 μ L	150 μ L	200 μ L	250 μ L
5.00ml		100 μ L	200 μ L	300 μ L	400 μ L	500 μ L
12.50ml		250 μ L	500 μ L	750 μ L	1000 μ L	1250 μ L
25.00ml		500 μ L	1000 μ L	1500 μ L	2000 μ L	2500 μ L
50.00ml		1000 μ L	2000 μ L	3000 μ L	4000 μ L	5000 μ L
Steps		48	23	15	11	8

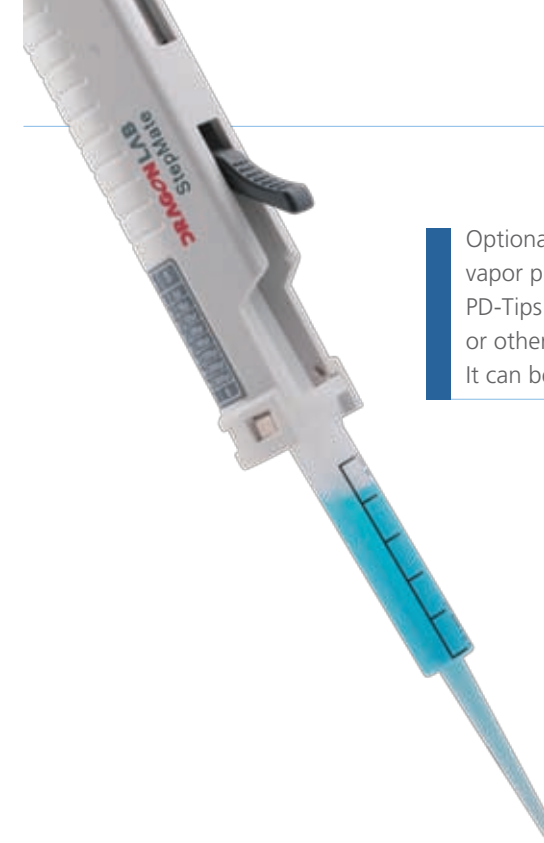
Steps

Optimized for smooth dispensing of even the smallest volumes

Five easy-to-select settings control dispensing volume

By pushing the slide upwards, the syringe is filled up

The stop lever secures the syringe



Optional BRAND PD-tips are particularly suitable for dispensing of fluids with high viscosity, high vapor pressure etc

PD-Tips are made from high-quality materials (Cylinder: PP, Piston: PE-HD) without soft lubricants or other additives

It can be used with compatible, third-party dispensing systems of BRAND, Rainin and Eppendorf

Specifications

Note: The first and last dispensing liquid should be discarded or back into container vessel.

Dial setting	1	2	3	4	5		
Number of steps	48	23	15	11	8		

Syringe volume (mL)	Sample volume (μ L)					A %	P %
0.50	10	20	30	40	50	± 0.8	≤ 0.7
1.25	25	50	75	100	125	± 0.8	≤ 0.5
2.50	50	100	150	200	250	± 0.8	≤ 0.4
5.00	100	200	300	400	500	± 0.4	≤ 0.3
12.50	250	500	750	1000	1250	± 0.3	≤ 0.3
25.00	500	1000	1500	2000	2500	± 0.2	≤ 0.3
50.00	1000	2000	3000	4000	5000	± 0.2	≤ 0.2



Features

- Pipette controller for use with pipettes from 0.1 - 100mL
- Eight speeds are available for aspirate and dispense liquid
- Large LCD display provides visual confirmation of remaining battery charge and speed settings
- Easy for one-handed operation
- Lightweight, ergonomic designs allow longer, fatigue-free pipetting
- Efficient lithium-ion battery offers long runtime on each charge
- Low battery alert
- Powerful motor fills a 25mL pipette in<5 seconds
- Supplied with integral but replaceable 0.45µm filter
- Can be used while charging

Large LCD display provides the remaining battery life and speed settings

Select the desired speed by press the button +/-

Comfortable aspirate and dispense triggers

The dispense button is pressed only up to a point where a check can be felt, the dispensing function will be based on the force of gravity and the liquid will simply flow out

The 0.45µm filter and adapter can be integral and replaceable

Silicone adapter suitable for 0.1-100mL pipettes that can be fully autoclaved at 121°C



Levo Plus Pipette Filler



Specifications

Aspirate Speeds	8
Dispense Speeds	8 Gravity Dispense
Battery	Lithium-Ion
Battery Service Life	More than 8 Hours of Intermittence Use
Charging Time	2~3 Hours
Pipette Types	Glass or Plastic Pipette(0.1-100mL), Pasteur Pipettes
Filter	0.45 µm Hydrophobic

Two-position stand



Levo Pipette Controllers

Features

- Five colors available
- Comfortable and simple to use
- Precise pipetting control
- Robust and lightweight
- 0.1-100mL volumetric or serological pipettes can be used
- Filling and delivery are easily controlled with a small sensitive lever
- Uses integral and replaceable 3µm filter
- Easy to maintain and clean
- Autoclavable silicone pipette holder



The 3.0µm filter and adapter can be integral and replaceable

Silicone adapter suitable for 0.1-100mL pipette



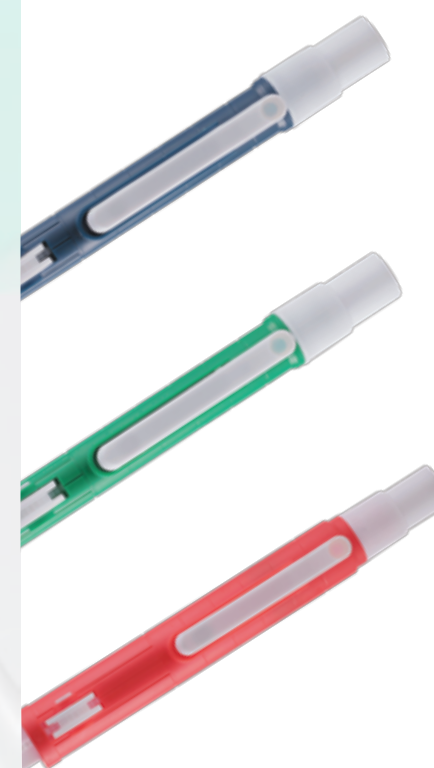
Pipette Pumps



Pipette Pump is easy for one hand operation and optimally located thumbwheel rotates easily for precision aspirating or dispensing. By depressing the side lever, entire contents can be dispensed rapidly.

Features

- Volume capacity 2mL, 10mL and 25mL
- Color coded by volume with green, blue and red
- Thumbwheel for precision operation
- Resistant to acids, alkalis
- Easily disassembly for cleaning



DispensMate Bottle-Top Dispensers

Quick and easy volume adjustment

Smooth piston design provides effortless dispensing

Adapters allow fitting to standard reagent bottles

Closure cap protects, against reagent contact and is easy to attach and remove, even while wearing gloves

Filling tube adjusts easily to different size bottles

Features

- Excellent chemical resistance
- Fully autoclavable at 121°C
- Four ranges of bottle-top dispenser cover a volume range from 0.5mL to 50mL
- Easy to clean and maintain
- The optional flexible discharge tube with safety handle permits fast and precise dispensing
- Made of PTFE, FEP, BSG, PP
- Vapor pressure Max. 500mbar, viscosity max. 500mm²/s, temperature max. 40°C, density max. 2.2g/cm³
- DispensMate plus is supplied with S40, GL32, GL38, GL25, GL28 sized adapters

Specifications

Volume Range mL	Graduation mL	A≤±		CV≤	
		%	μL	%	μL
0.5-5	0.1	0.5	25	0.1	5
1.0-10	0.2	0.5	50	0.1	10
2.5-25	0.5	0.5	125	0.1	25
5.0-50	1.0	0.5	250	0.1	50

Accessories

- S40, Adapter, 45/40mm
- GL32, Adapter, 45/32mm
- GL38, Adapter, 45/38mm
- GL25, Adapter, 32/25mm
- GL28, Adapter, 32/28mm
- Reagent Bottle (Brown, 1L)
- Filling tube(m)
- Discharge tube(m)

DL-D50-Pro Dispenser & Diluter System

NEW



Features

- It is ideal for dedicated dispensing and diluting applications
- The high torque, precision stepper motors provide unsurpassed positional accuracy
- Full range from 10 μL to 50 mL
- The Basic controller performs standard dilutions and dispensing
- 0.002% of the nominal syringe volume, more effective and precise

Distilling&Mixing

Rotary Evaporators

RE100-Pro LCD Digital Rotary Evaporator



Features:

- Large digital LCD screen displays heating temperature, rotation speed and time.
- Motor lift configurations, automatic release of the evaporating flask to top position in case of power failure.
- Wide temperature range of the 5L heating bath (Room temp. -180 °C) covers the widest applicational needs and has a safety temperature cut off 220°C.
- Speed range from 20 to 280 rpm, and interval operation in clockwise and counterclockwise directions for drying process.
- Patented condenser (cooling surface 1,500 cm²) with excellent cooling effect
- Experience the advantage of the automatic process timer which turns off your evaporator at a pre-programmed time and removes the evaporating flask from the bath
- Easy evaporating flask removal thanks to the ejector
- Chemical-resistant double PTFE system and patented pressure spring provide excellent sealing
- PC can control and document all parameters via USB interface



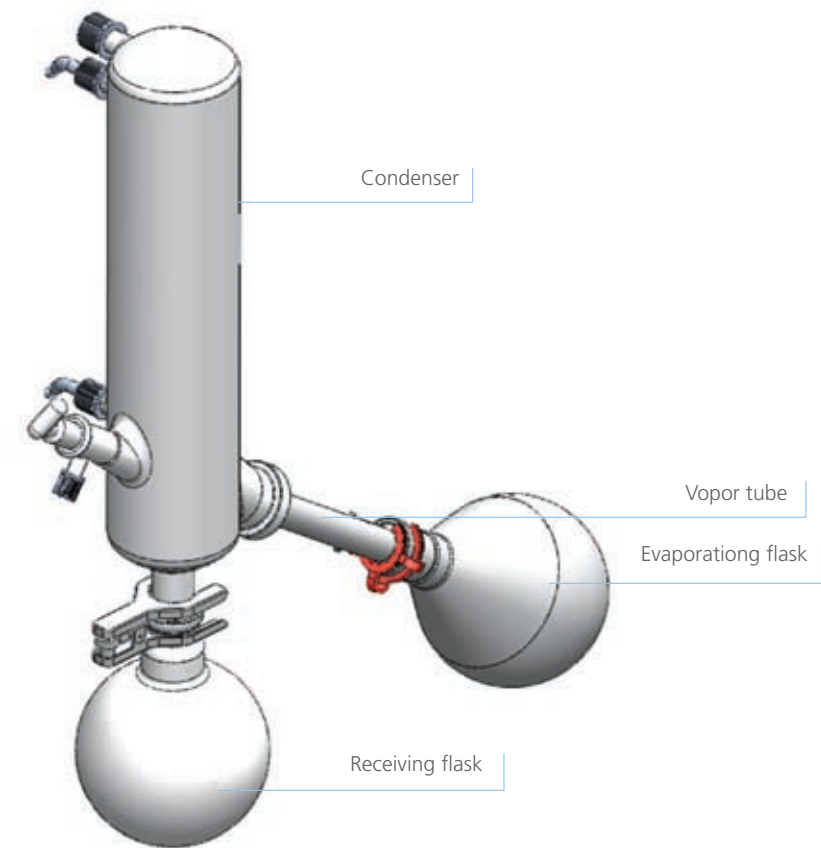
Specifications

Voltage [VAC]	100-120/200-240
Frequency [Hz]	50/60
Power [W]	1400
Motor Principle	Brushless DC motor
Speed Range [rpm]	20-280
Speed Display	LCD
Reversible Direction of Rotation	Yes
Heating Temperature Range [°C]	Room temp.-180
Heat Control Accuracy [°C]	±1
Heat Output [W]	1300
Temperature Display	LCD
Lift	Motor
Stroke [mm]	150
Timer	Yes
Timer Display	LCD
Time Setting Range [min]	1-999
Overall Dimensions [D×W×H mm]	465×457×583
Weight [kg]	15
Permissible Ambient Temperature [°C]	5-40
Permissible Relative Humidity	80%
Protection Class acc. To DIN EN60529	IP20
USB Interface	Yes

Accessories

condenser

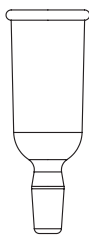
Condenser type: vertical
Cooling surface: 1500 cm²
Cat. No: 18900165



Evaporating flask
NS 29/32



Receiving flask
KS 35/20



Connector
NS 29/32

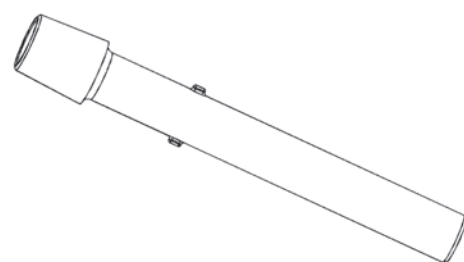
Cat. No.	Volume
18300116	50mL
18300117	100mL
18300118	250mL
18300119	500mL
18300120	1000mL
18300121	2000mL
18300122	3000mL

Cat. No.	Volume
18300107	100mL
18300108	250mL
18300109	500mL
18300110	1000mL
18300111	2000mL

Cat. No.	Size
18300094	29/24
18300095	29/19
18300096	29/14



Foam brake, 250mL
NS 29/32
Cat. No: 18300093



Vapor tube
NS 29/32
Cat. No: 18300097



Seal
Cat. No: 18300098

Vacuum pump
Cat. No: 18200743



Voltage [V]		110,220
Frequency [Hz]		50/60
Power [W]		95
Maximum Vacuum [mbar]		13
Pump Speed	0 mmHg	25 L/min
	100 mmHg	22 L/min
	200 mmHg	20 L/min
	300 mmHg	12 L/min
	400 mmHg	7.5 L/min
	550 mmHg	5 L/min
Suction Nozzle Size [mm]		8
Motor speed [rpm]		1450
Weight [kg]		7
Noise [dB]		50

Recirculating chiller
Cat. No: 18200746



Model		F250
Temperature range [°C]		-10~+40
Temperature stability [°C]		±0.5
Temperature display		LED
Pump capacity flow rate [L/min]		15
Pump capacity flow pressure [bar]		0.35
Cooling capacity	20 °C	0.25KW
	10 °C	0.22 KW
	5 °C	0.21KW
	0 °C	0.18 KW
	-5 °C	0.09 KW
Filling volume [L]		1.7 ~ 2.6
Weight [kg]		27
Dimensions [W×L×H, cm]		24×40×52

Magnetic Hotplate Stirrers

7 Inch Square Magnetic Hotplate Stirrers

DRAGONLAB 7 inch square magnetic hotplate stirrers with 550°C heating temperature, glass ceramic plate, brushless DC motor and external temperature sensor PT1000, which provides excellent product performance. They are widely used in chemical synthesis, physical and chemical analysis, bio-pharmaceuticals and other fields.



Temperature up to 550°C

MS7-H550-Pro

With external temperature sensor PT1000

Integrated temperature sensor--PT1000

- Automatically identify
- Control accuracy is ±0.2°C

Glass ceramic plate

- High temperture resistance
- Excellent chemical resistance
- Easy to clean

Brushless DC motor

- Explosion-proofed
- Maintenance free
- Accurate speed control

Digital LCD display

- For precise temperature and speed control
- "Hot" sign warning to prevent burns

Enclosed aluminum alloy casing

- Excellent chemical resistance
- Excellent thermal conductance



MS7-H550-Pro

LCD Digital Magnetic Hotplate Stirrer

Features

- Backlit LCD display for precise monitoring of speed and temperature
- Take advantage of a built-in PID controller that ensures maximum heat-up times while preventing an over temperature situation of your sample
- Temperature up to 550°C.
- Separate safety circuits with fixed safety temperature of 580°C
- Intergrated temperature sensor PT 1000 for precise temperature control. Control accuracy: $\pm 0.2^{\circ}\text{C}$
- Excellent heat control accuracy of the work plate: $\pm 1(<100^{\circ}\text{C}) \pm 1\%(>100^{\circ}\text{C})$
- Electronic speed control, the max speed is 1500rpm.
- Brushless DC motor is maintenance free, explosion-proofed and accurate speed control.
- Independent control knobs for adjusting the speed and temperature
- "HOT" sign warning to prevent burns, even if switched off.
- PC can control and document all parameters via RS232 interface



MS7-H550-Pro
With color pies

MS7-H550-S

LED Digital Magnetic Hotplate Stirrer

Features

- LED displays target and actual temperatures
- Speed range is 0-1500rpm
- Temperature up to 550°C.
- Separate safety circuits with fixed safety cut off temperature of 580°C
- PT1000 external temperature sensor is available. The control accuracy is $\pm 0.5^{\circ}\text{C}$
- "HOT" sign warning to prevent burns, even if switched off.



MS7-H550-S
With external temperature sensor PT1000



5 Inch Round-top Magnetic hotplate Stirrers

DRAGONLAB's 340°C magnetic hotplate stirrers include all leading safety standards and features for superior ease of use and reduced cost of ownership. They are widely used in chemical synthesis, physical and chemical analysis, bio-pharmaceuticals and other fields.

DRAGONLAB's 280°C magnetic hotplate stirrer is the only low temperature magnetic stirrer in the world, that has micro controller and LED display, especially it can work with external temperature sensor PT1000.

Temperature is up to 340°C

Integrated temperature sensor--PT1000

- Automatically identify
- Control accuracy is $\pm 0.2^{\circ}\text{C}$

Brushless DC motor

- Explosion-proofed
- Maintenance free
- Accurate speed control

Digital LCD display

- For precise temperature and speed control
- "Hot" sign warning to prevent burns

RS232 interface

- Fully closed aluminum alloy casing
- High IP protection class(IP42)

MS-H-Pro⁺

With external temperature sensor PT1000

MS-H-Pro⁺

LCD Digital Magnetic Hotplate Stirrer

MS-H-Pro^T NEW

LCD Digital Magnetic Hotplate Stirrer with Timer

Features:

Safe Heating and Mixing

- Conforms to international safety standards and regulations
- Brushless DC motor is maintenance free and explosion-proof
- Fully closed aluminum alloy casing has a high IP protection class(IP42)
- The temperature sensor consists of two independent safety circuits, which switches off heating in case of any over temperature situation
- "HOT" sign warning to prevent burns, even if switched off.

Precise temperature and speed control

- Temperature is up to 340°C
- Integrated temperature sensor PT 1000 for precise temperature control. Control accuracy is $\pm 0.2^{\circ}\text{C}$
- Excellent heat control accuracy at the work plate: $\pm 1(<100^{\circ}\text{C}) \pm 1\%(>100^{\circ}\text{C})$
- Electronic speed control, max speed is 1500rpm.

Convenient

- Digital process timer allows for unattended operation and can be set from 1min to 99h 59min. When the set time has elapsed, the operation stops. (MS-H-Pro^T)
- Backlit LCD display target and actual temperatures and speed
- Automatically identifies temperature sensor PT1000 and transfer to PT1000 operation mode.
- Stainless steel with ceramic coated hotplate allows immediate heat transfer for quick heat-up times, chemical-resistant and scratch proof
- Max. stirring quantity 20L
- PC can control and document all parameters via RS232 interface
- Used with a wide variety of accessories



MS-H-Pro^T



MS-H-Pro⁺



MS-H-S

Classic Magnetic Hotplate Stirrer

Features:

Safe Heating and Mixing

- Temperature up to 340°C
- Stirring speed up to 1500rpm
- Stainless steel with ceramic coated hotplate allows immediate heat transfer for quick heat-up times, chemical-resistant and scratch proof
- Separated safety circuit, automatically stops heating if temperature goes over 350°C
- Enclosed assembly with protection class IP42
- Brushless DC motor maintenance free and explosion-proof



MS-H280-Pro

LED Digital Magnetic Hotplate Stirrer

Features:

- Digital control system is ideal for applications of Analytical and biological Laboratory.
- Temperature up to 280°C
- Electronic speed control, the max speed is 1500rpm.
- Stainless steel with ceramic coated hotplate allows immediate heat transfer for quick heat-up times, chemical-resistant and scratchproof
- External temperature sensor PT1000 is available and control accuracy of $\pm 0.5^{\circ}\text{C}$, real-time control medium temperature.
- LED display temperature and speed.
- 50°C HOT warning indicates residual hotplate temperature.
- ABS casing with fire retardant material, resistance of weak acid and alkali



MS-H280-Pro

With external temperature sensor PT1000

Magnetic Hotplate Stirrers

MS-H-S10

10-Channel Classic Magnetic Hotplate Stirrer

Features:

- Temperature up to 120°C
- High-performance multi-position magnetic stirrer with uniform temperature distribution
- Individually controlled stirring for consistency with various samples
- Electronic speed control motor provides constant speed
- Speed range of 0-1100rpm
- Brushless DC motor maintenance free and quiet running
- Stainless steel plate with silicone films, anti-slip and anti-corrosion





It is available of stirrer bars

Stirrer bars and stirrer bar remover(PTFE), use below 150°C
Models

MS-H550-Pro
MS-H550-S
MS-H-Pro⁺
MS-H-Pro^T
MS-H-S
MS-S

MS-H280-Pro
MS-PA
MS-PB

MS-H-S10
MS-M-S10

Cat. No.	Size of stirrer bars [mm]	Suitable for Max. stirrer bar 80mm	Suitable for Max. stirrer bar 50mm	Suitable for Max. stirrer bar 40mm
18900006	10mm x 6mm	•	•	•
18900007	15mm x 8mm	•	•	•
18900008	20mm x 8mm	•	•	•
18900009	25mm x 8mm	•	•	•
12500005	30mm x 6m	•	•	•
18900011	40mm x 8mm	•	•	•
12500004	51mm x 8mm	•	•	
18900013	65mm x 8mm	•		
18900014	80mm x 13mm	•		
18900015	Stirrer bar remover, length of 200mm	•	•	•

Magnetic Hotplate Stirrers

Specifications of Hotplate Magnetic Stirrers



	MS7-H550-Pro	MS7-H550-S	MS-H-Pro ⁺	MS-H-Pro ^T	MS-H-S	MS-H280-Pro	MS-H-S10
Dimension of work plate [mm]	184x184 (7 inch)	184x184 (7 inch)	φ135(5 inch)	φ135(5 inch)	φ135(5 inch)	φ135(5 inch)	180x450
Work plate material	Glass ceramic	Glass ceramic	Stainless steel with ceramic coated	Stainless steel with ceramic coated	Stainless steel with ceramic coated	Stainless steel with ceramic coated	Stainless steel with silicone Film
Motor type	Brushless DC motor	Shaded pole motor	Brushless DC motor	Brushless DC motor	Brushless DC motor	DC motor	Brushless DC motor
Motor rating input [W]	18	15	18	18	18	5	12
Motor rating output [W]	10	1.5	10	10	10	3	4
Power [W]	1050	1030	550	550	530	515	490
Voltage [VAC]	100-120/200-240	100-120/200-240	100-120/200-240	100-120/200-240	100-120/200-240	100-120/200-240	100-120/200-240
Frequency [Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Stirring positions	1	1	1	1	1	1	10
Max. stirring quantity[H ₂ O], L	20	10	20	20	20	3	0.4 (each stirring position)
Max. magnetic bar(L x Ø) [mm]	80	80	80	80	80	50	40
Speed range [rpm]	100-1500	0-1500	100-1500	100-1500	0-1500	100-1500	0-1100
Speed display	LCD	Scale	LCD	LCD	Scale	LED	Scale
Speed display resolution [rpm]	±1	-	±1	±1	-	-	-
Heating output [W]	1000	1000	500	500	500	500	470
Heating temperature range [°C]	Room Temp.-550, increment 1	Room temp.-550, increment 5	Room temp.-340, increment 1	Room temp.-340, increment 1	Room temp.-340	Room temp.-280, increment 1	Room temp.-120
Control accuracy of work plate [°C]	±1(<100°C) ±1%(>100°C)	±10	±1(<100°C) ±1%(>100°C)	±1(<100°C) ±1%(>100°C)	-	±1(<100°C) ±1%(>100°C)	-
Safety temperature [°C]	580	580	360	360	350	320	140
Temperature display	LCD	LED	LCD	LCD	Scale	LED	Scale
Temperature display accuracy [°C]	±0.1	±1	±0.1	±0.1	-	±1	-
External temperature sensor	PT1000	PT1000	PT1000	PT1000	N/A	PT1000	N/A
Control accuracy with external temperature sensor PT1000 [±°C]	±0.2	±0.5	±0.2	±0.2	-	±0.5	-
Heating warning [°C]	50°C	50°C	50°C	50°C	N/A	50°C	N/A
Time setting range	-	-	-	1min to 99h 59min	-	-	-
Remote control (RS232 interface)	Yes	N/A	Yes	Yes	N/A	N/A	N/A
Protection class	IP21	IP21	IP42	IP42	IP42	IP21	IP42
Dimension [W x D x H] mm	215x360x112	215x360x112	160x280x85	160x280x85	160x280x85	150x260x80	182x552x65
Weight [kg]	5.3	4.5	2.8	2.8	2.8	1.8	3.2
Permissible ambient temperature [°C]	5-40	5-40	5-40	5-40	5-40	5-40	5-40
Permissible relative humidity	80%	80%	80%	80%	80%	80%	80%



MS-H-Pro+
with PT1000
and 1/4 color
pies



MS-H-Pro+
with PT1000
and reaction
block

Accessories

Cat. No.	189000001	189000065	189000002	189000003	189000004	189000005	189000048	189000049	189010006	189010007	189010008	189010009
Descriptions	Blue carrying plate, use with color quarter pies	Blue Fixed ring, use with color quarter pies	Red quarter pie, 11 holes, 4 mL reaction vessel, Ø15.2mm, 20mm depth	Purple quarter pie, 4 holes, 20 mL reaction vessel, Ø28mm, 24mm depth	Blue quarter pie, 4 holes, 30mL reaction vessel, Ø28mm, 30mm depth	Black quarter pie, 4 holes, 40mL reaction vessel, Ø28mm, 43mm depth	Green quarter pie, 6 holes, 8mL reaction vessel, Ø17.8mm, 26mm depth	Golden quarter pie, 4 holes, 16mL reaction vessel, Ø21.6mm, 31.7mm depth	Reaction block for 50mL round bottom flask (one flask capacity)	Reaction block for 100mL round bottom flask (one flask capacity)	Reaction block for 250mL round bottom flask (one flask capacity)	Reaction block for 500mL round bottom flask (one flask capacity)

Magnetic hotplate stirrers are available to hold quarter color pies(volume range from 4mL to 16mL) and reaction blocks (volume range from 50mL to 500mL), which ensure uniform heating distribution and excellent resistance to chemicals. The color pies and blocks with aluminum material which are easy to clean and safety for lab.

Models											
MS7-H550-Pro											
MS7-H550-S											
MS-H-Pro+											
MS-H-Pro ⁺											
MS-H-S											
MS-H280-Pro											



Cat. No.	189000019	189000016	189000136	189000017	18900148
Descriptions	F101 protective cover, for hotplate models, temperature resistance of 135°C	PT1000-A, temperature sensor for digital hotplate models, length of 230mm	PT1000-B, temperature sensor with glass coated, length of 230mm, used for digital hotplate models	Support clamp of PT1000	Support clamp of PT1000, use with MS-H280-Pro
Models					
MS7-H550-Pro					
MS7-H550-S					
MS-H-Pro+					
MS-H-Pro ⁺					
MS-H-S					
MS-H280-Pro					

Magnetic Stirrers

MS-S
Classic Magnetic Stirrer

Features:

- Speed range of 0-1500 rpm
- Max. stirring quantity 20L
- Stainless steel with ceramic coated hotplate provides for chemical-resistancy and scratch resistance
- High magnetic adhesion, prevents the stirrer bar escape
- Enclosed assembly with protection class IP42
- Brushless DC motor is maintenance free and explosion-proof

MS-S



MS-PA
LED Digital Magnetic Stirrer

Features:

- Speed range of 100-1500 rpm
- Max. stirring quantity 3L
- LED display shows set and actual speeds
- Microprocessor control technology guarantees speed control accuracy
- ABS casing with fire retardant material, resistance of weak acid and alkali

MS-PA



MS-PB
Classic Magnetic Stirrer

Features:

- Speed range of 0-1500 rpm
- Max. stirring quantity 3L
- ABS casing with fire retardant material, resistance of weak acid and alkali

MS-PB





MS-M-S10

10-Channel Classic Magnetic Stirrer

Features:

- Speed range of 0-1100rpm
- High-performance magnetic stirrer with 10 stirring positions benefit laboratory space
- Individually controlled stirring for consistency with various samples
- Brushless DC motor provides maintenance free and constant speed
- Stainless steel plate with silicone film, anti-slip and anti-corrosion



MS-M-S10

Magnetic Stirrers



MS-S



MS-PA



MS-PB



MS-M-S10

	MS-S	MS-PA	MS-PB	MS-M-S10
Dimension of work plate [mm]	φ135(5 inch)	φ135(5 inch)	φ135(5 inch)	180×450
Work plate material	Stainless steel with ceramic coated	Plastic	Plastic	Stainless steel with silicone Film
Motor type	Brushless DC motor	DC motor	DC motor	Brushless DC motor
Motor rating input [W]	18	5	5	12
Motor rating output [W]	10	3	3	4
Power [W]	30	15	10	20
Voltage [VAC]	100-240	100-240	100-240	100-240
Frequency [Hz]	50/60	50/60	50/60	50/60
Stirring positions	1	1	1	10
Max. stirring quantity[H ₂ O], L	20	3	3	0.4 (each stirring position)
Max. magnetic bar(L x Ø) [mm]	80	50	50	40
Speed range [rpm]	0-1500	100-1500	0-1500	0-1100
Speed display	Scale	LED	Scale	Scale
Protection class according to DIN EN60529	IP42	IP42	IP42	IP42
Dimension [W x D x H] mm	160×280×85	150×260×80	150×260×80	182×552×65
Weight [kg]	2.8	1.8	1.8	3.2
Permissible ambient temperature [°C]	5-40	5-40	5-40	5-40
Permissible relative humidity	80%	80%	80%	80%



NEW

FlatSpin

Ultra-flat Compact Magnetic Stirrer

Ultra-flat compact magnetic stirrer, provides better mixing and is ideal for the application of physical-chemical, analysis and biotech labs.

- Speed range of 15-1500rpm
- Automatic reverse rotation for better mixing result
- High IP protection class (IP 65)
- Set-up plate is made from chemically resistant materials
- Slip-proof and stable



Specifications

Voltage[VAC]	100-240
Frequency [Hz]	50/60
Motor rating input[W]	5
Motor rating output[W]	3
Speed range[rpm]	15-1500
Max. stirring quantity[H ₂ O,L]	0.8
Max. load capacity[kg]	2.0
Dimension of work plate[mm]	90x90
Material	ABS
Dimension[WxDxH]	175x120x15
Weight[kg]	0.3
Permissible relative temperature[°C]	5-40
Permissible relative humidity	80%
DIN EN60529	IP65



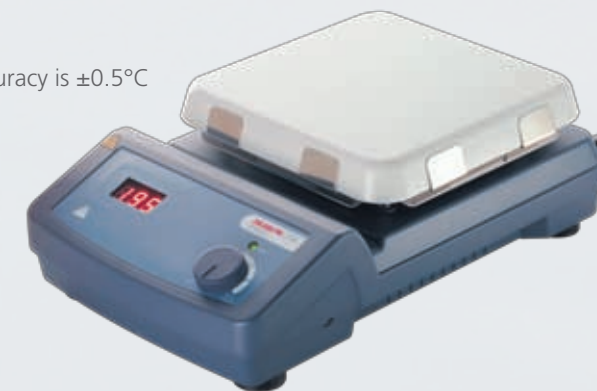
Hotplates

HP550-S

LED Digital Hotplate

Features:

- LED displays target and actual temperatures
- Temperature up to 550°C.
- Separate safety circuits with fixed safety temperature of 580°C
- PT1000 external temperature sensor is available. The control accuracy is $\pm 0.5^{\circ}\text{C}$
- "HOT" sign warning to prevent burns, even if switched off.



Specifications

Dimension of work plate [mm]	184x184 (7 inch)
Work plate material	Glass ceramic
Power [W]	1010
Voltage [VAC]	100-120/200-240
Frequency [Hz]	50/60
Heating Power [W]	1000
Heating temperature range [°C]	Room temp.-550, increment 5
Control accuracy of work plate [°C]	± 10
Safety temperature [°C]	580
Temperature display	LED
Temperature display accuracy [°C]	± 1
External temperature sensor	PT1000
Control accuracy with external temperature sensor PT1000 [$\pm^{\circ}\text{C}$]	± 0.5
Heating warning [°C]	50°C
Protection class according to DIN EN60529	IP21
Dimension [W x D x H] mm	215x360x112
Weight [kg]	4.5
Permissible ambient temperature [°C]	5-40
Permissible relative humidity	80%



DragonLab Overhead Stirrers can accomplish the most demanding tasks while providing the highest safety and increased performance life! They are widely used in chemical synthesis, pharmaceutical synthesis, physical and chemical analysis, petrochemical industry, etc.



Pass-through shaft design,
easy to replace vessels

Overload protection

LCD displays
set/ actual speeds and torque

Brushless DC motor
• Maintenance free
• Explosion-proof
• Accurate speed control

RS232 interface

Keyless chuck
Easily remove the stirring
elements without tools

- Gentle start operation
- Guarantee a constant speed

OS20-Pro / OS40-Pro

Push-through shaft design,
easy to replace vessels

Overload protection

LED displays actual speed

Brushless DC motor
• Maintenance free
• Explosion-proofed
• Accurate speed control

Keyless chuck
Easily remove the stirring
elements without tools

OS20-S / OS40-S

Overhead Stirrers

OS20-Pro / OS40-Pro LCD Digital Overhead Stirrer

Features:

- High reliability, long continuous service, outstanding performance
- Digital speed display, cover the speed range from 50 to 2200rpm. The control accuracy is ± 3 rpm
- Brushless DC motor drive, maintenance free and explosion-proof
- LCD display for precise monitoring set and actual speeds
- Torque trend display to get real-time information on viscosity changes
- Protection - Safety circuits installed ensures automatic cut-off in an anti-stall or overload conditions
- Gentle start operation, which prevents spills and splashing media
- Provides a constant speed a constant speed even with changes in viscosities of the sample
- RS232 interface- PC can control and document all operation values via RS232 interface.

OS20-Pro / OS40-Pro With universal plate stand



OS20-S / OS40-S

LED Digital Overhead Stirrer

Features:

- High reliability, long continuous service, outstanding performance
- Cover the speed range from 0 to 2200rpm
- Brushless DC motor drive, maintenance free and explosion-proof
- LED displays actual speed
- Overload protection - motor automatically stops in case of overload

	OS40-Pro	OS20-Pro	OS40-S	OS20-S
Max. stirring quantity(H ₂ O)[L]	40	20	40	20
Motor rating input[W]	120	60	120	60
Motor rating output[W]	100	50	100	50
Voltage[VAC]	100-240	100-240	100-240	100-240
Frequency [Hz]	50/60	50/60	50/60	50/60
Power[W]	130	70	130	70
Speed range[rpm]	50-2200	50-2200	0-2200	0-2200
Speed display accuracy[rpm]	±3	±3	-	-
Speed display	LCD	LCD	LED	LED
Speed display resolution[rpm]	±1	±1	±1	±1
Max. torque[Ncm]	60	40	60	40
Torque display	LCD	LCD	-	-
Overload protection	LED lights, motor automatic stops			
Motor protect	LED lights, motor automatic stops			
Viscosity max. [mPas]	50000	10000	50000	10000
Chuck range diameter[mm]	0.5-10	0.5-10	0.5-10	0.5-10
Dimension[W x H x D] (mm)	83 x 220 x 186	83 x 220 x 186	83 x 220 x 186	83 x 220 x 186
Weight[kg]	2.8	2.6	2.8	2.6
Protection class acc. to DIN/EN 60529	IP42	IP42	IP42	IP42
Temperature[°C]	5-40	5-40	5-40	5-40
Permission relative humidity[%]	80	80	80	80
Remote control(RS232 interface)	Yes	Yes	N/A	N/A

OS20-S / OS40-S

With universal plate stand



Overhead Stirrers

Accessories

Cat. No: 18900131

Universal plate stand (W x D: 20 x 31cm), including support holder (H: 78cm) and fixing device

Cat. No: 18900071

Crossed stirrer, shaft length 40cm, stirrer diameter 5cm, 316L stainless steel
Standard stirring element, used at medium and high speeds

Cat. No: 18900072

Straight stirrer, shaft length 40cm, stirrer diameter 6cm, 316L stainless steel
Suitable for mixing of low viscosity media, used at medium and high speeds

Cat. No: 18900073

Blade stirrer, shaft length 40cm, stirrer diameter 6.8cm, 316L stainless steel
Gentle processing samples, used at low and medium speeds

Cat. No: 18900074

Centrifugal stirrer, shaft length 40cm, stirrer diameter 9cm, 316L stainless steel
Blades open with increasing speed for stirring in a round vessel with a narrow neck, used at medium and high speeds

Cat. No: 18900075

Crossed stirrer, shaft length 35cm, stirrer diameter 6.5cm, PTFE coated
Standard stirring element, used at medium and high speeds

Cat. No: 18900076

Straight stirrer, shaft length 35cm, stirrer diameter 7cm, PTFE coated
Suitable for mixing of low viscosity media, used at medium and high speeds

Cat. No: 18900077

Blade stirrer, shaft length 35cm, stirrer diameter 6.8cm, PTFE coated
Gentle processing samples, used at low and medium speeds

Cat. No: 18900078

Centrifugal stirrer, shaft length 35cm, stirrer diameter 8.5cm, PTFE coated
Blades open with increasing speed for stirring in a round vessel with a narrow neck, used at medium and high speeds



Mixers, Rotators and Rollers

Vortex Mixers

Vortex Mixers are ideal instruments for gentle mixing to vigorous resuspension of cells and biological and chemical liquid components in tubes using an eccentric mechanism. They are widely used in life science, physical and chemical analysis fields.



MX-S Vortex Mixer

Features:

- Touch and continuous operations
- Speed range of 0-2500rpm, stepless speed regulation
- Used for various mixing applications with optional adapters
- Specially designed vacuum suction feet for stability to the work surface and prevent the unit from movement
- Aluminium cast base avoids unnecessary “walking”



Accessories(MX-S)



MX-S
With VT1.3-universal top plate and a tube adapter
Continuous operation



MX-S
With VT1.1-standard top cup
Touch operation



MX-S
With VT1.2-holding rod and tube adapter
Touch operation



Cat. No: 18900034
VT1.1 Standard top
for <Ø30mm tubes and small vessels



Cat. No: 18900035
VT1.3 Universal top plate
Ø 100mm



Cat. No: 18900020
VT1.3.1 tube adapter
for 48 holes test tubes, Ø6mm,
used with VT1.3/ VT1.2



Cat. No: 18900021
VT1.3.2 tube adapter
for 15 holes test tubes, Ø10mm,
used with VT1.3/ VT1.2



Cat. No: 18900024
VT1.3.5 tube adapter
for 8 holes test tubes, Ø20mm, used
with VT1.3/ VT1.2



Cat. No: 18900022
VT1.3.3 tube adapter
for 12 holes test tubes, Ø12mm,
used with VT1.3/ VT1.2



Cat. No: 18900023
VT1.3.4 tube adapter
for 8 holes test tubes, Ø16mm, used with
VT1.3/ VT1.2



Cat. No: 18900043
VT1.3.6 Platform pad
for <Ø99mm tubes and small vessels



Cat. No: 18900044
VT1.2 Tube holding rod
used with tube adapters

Cat. No: 18900050
VT1.3.7 Rubber vacuum suction foot



Application of accessories

Accessories	Adjustable speed model (0-2500rpm)	
	Touch mode (High speed area)	Continuous mode (Low speed area)
VT1.1	Y	Y
VT1.2 + VT1.3.1	Y	
VT1.2 + VT1.3.2	Y	
VT1.2 + VT1.3.3	Y	
VT1.2 + VT1.3.4	Y	
VT1.2 + VT1.3.5	Y	
VT1.3 + VT1.3.6	Y	
VT1.3 + VT1.3.1		Y
VT1.3 + VT1.3.2		Y
VT1.3 + VT1.3.3		Y
VT1.3 + VT1.3.4		Y
VT1.3 + VT1.3.5		Y



NEW



MX-E



MX-E Classic Vortex Mixer

- Touch operation
- Fixed speed at 3000rpm
- Small compact shape, ultra shock mount
- Eccentric bearing design

Specifications

	MX-S (Adjustable speed)	MX-E (Fixed speed)
Voltage[VAC]	110-120/220-230	100-240
Frequency[Hz]	50/60	50/60
Power[W]	60	20
Mixing motion	Orbital	Orbital
Orbital diameter[mm]	4	4.8
Motor rating input[W]	58	12
Motor rating output[W]	10	8
Speed range[rpm]	0-2500	3000
Speed display	Scale	-
Run type	Continuous/ touch operation	Touch operation
Dimensions[W×H×D mm]	127×130×160	134×134×70.5
Weight[kg]	3.5	0.8
Permissible ambient temperature[°C]	5-40	5-40
Permissible relative humidity	80%	80%
Protection class acc. DIN EN60529	IP21	IP21

Mixers, Rotators and Rollers

Microplate Mixers

Compact and universal Microplate Mixer can hold one or two microplates, used in life science field including microbiology, cell and molecular biology, immunology and biotechnology.



MX-M
With microplate clamp



MX-M
With double microplate clamp

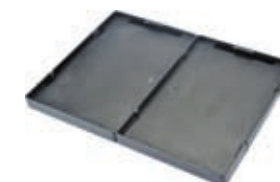


MX-M
With universal top plate
and a tube adapter

Accessories



Cat. No: 18900042
PS1.2 Microplate clamp



Cat. No: 18900079
MXM-116
Double microplate clamps



Cat. No: 18900067
PS1.1 Universal top plate (round)
Used with tube adapters



Cat. No: 18900020
VT1.3.1 tube adapter
for 48 holes test tubes, Ø6mm,
used with PS1.1



Cat. No: 18900021
VT1.3.2 tube adapter
for 15 holes test tubes, Ø10mm,
used with PS1.1



Cat. No: 18900022
VT1.3.3 tube adapter
for 12 holes test tubes, Ø12mm,
used with PS1.1



Cat. No: 18900023
VT1.3.4 tube adapter
for 8 holes test tubes, Ø16mm,
used with PS1.1



Cat. No: 18900024
VT1.3.5 tube adapter
for 8 holes test tubes,
Ø20mm, used with PS1.1

Specifications

Voltage [VAC]	100-240
Frequency[Hz]	50/60
Power[W]	20
Shaking movement	Orbital
Orbital diameter[mm]	4.5
Max. shaking weight(with accessory)[kg]	0.5
Motor type	Brushless DC motor
Motor rating input[W]	18
Motor rating output [W]	10
Speed range[rpm]	Single microplate: 0-1500 Double microplate : 0-1000
Speed display	Scale
Dimensions[mm]	260×150×80
Weight[kg]	3
Permissible ambient temperature [°C]	5-40
Permissible relative humidity	80%
Protection class acc. to DIN EN60529	IP21



Rotators

Our rotators give gentle but effective mixing of biological samples to be held in 1.5mL to 50mL micro tubes, used in a variety of applications including immune precipitations, prevention of blood coagulation, latex diagnostics etc.



MX-RD-Pro
LCD Digital Rotator



MX-RD-Pro
With dish accessory



MX-RD-Pro
With dual dish accessories
and support rods



MX-RD-Pro LCD Digital Rotator

Features:

- The rotator comes with a disk to be holder
- Electronic adjustment of speed and time
- LCD displays for speed and time adjustment
- Speed range from 10 to 70rpm
- Rolling action, gives gentle but effective mixing
- Adjustable mixing angle between 0 and 90°
- Used with a wide variety of accessories

Mixers, Rotators and Rollers

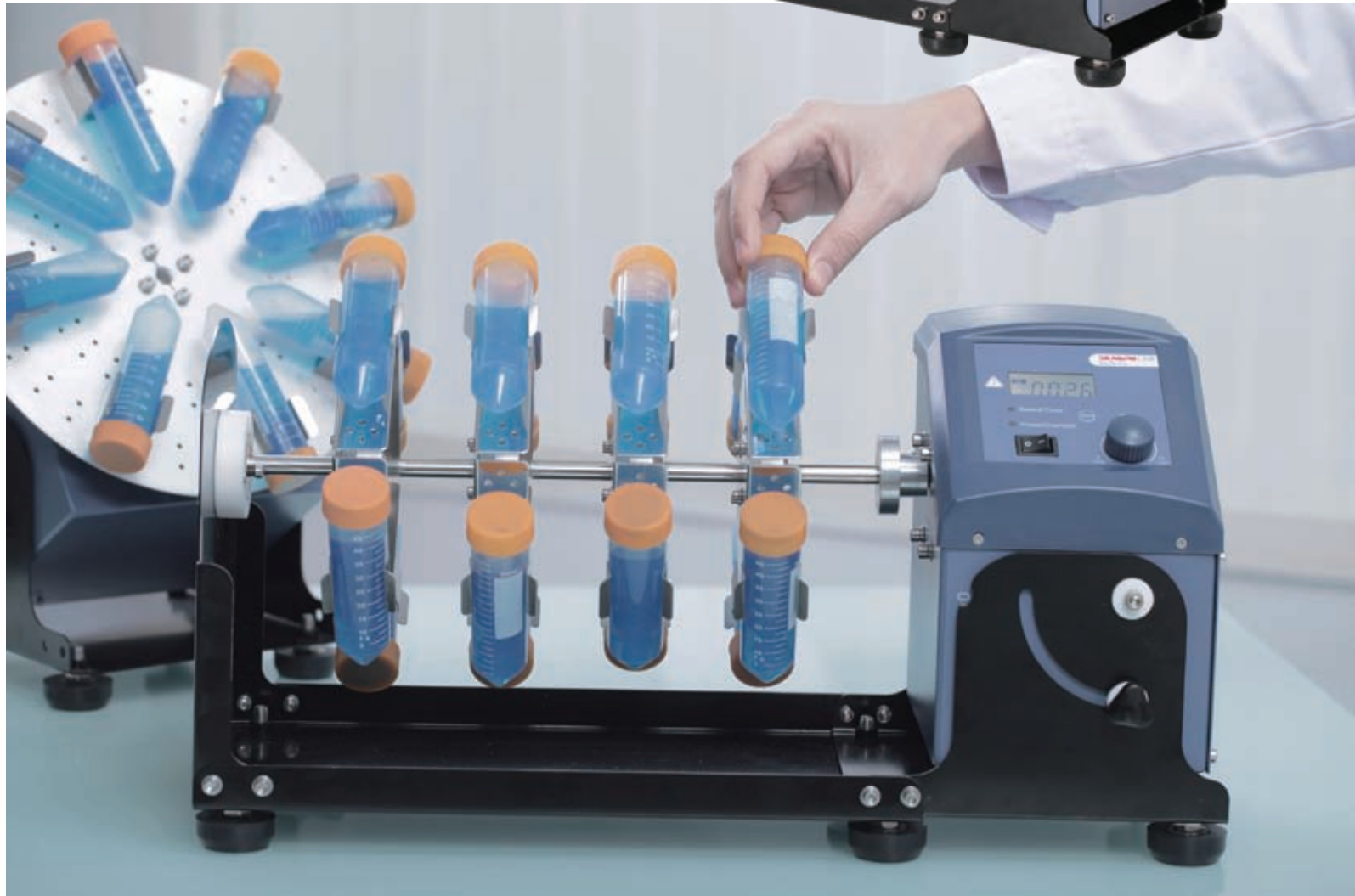
MX-RL-Pro LCD Digital Rotator

Features:

- The rotator comes with a rotisserie to be holder
- Electronic adjustment of speed and timer
- LCD displays speed and time adjustment
- Speed range from 10 to 70rpm
- End-over-end action, gives gentle but effective mixing
- Used with a wide variety of accessories

MX-RD-Pro

With rotisserie accessory



Accessories



Cat. No:18900160
Used for MX-RD-Pro
Disk accessory, for 1.5mL x
60 centrifuge tubes holder



Cat. No:18900161
Used for MX-RD-Pro
Disk accessory, 15mL x 16
centrifuge tubes holder



Cat. No:18900162
Used for MX-RD-Pro
Disk accessory, 50mL x 8
centrifuge tubes holder



Cat. No:18900140
Disk support rods,
4 pcs, use with disk
accessories



Cat. No:18900142
Used for MX-RL-Pro
Rotisserie accessory, for
1.5mL x 48 centrifuge tubes
held horizontally



Cat. No:18900143
Used for MX-RL-Pro
Rotisserie accessory, for
15mL x 24 centrifuge
tubes held horizontally



Cat. No:18900144
Used for MX-RL-Pro
Rotisserie accessory, for
50mL x 24 centrifuge
tubes held horizontally



Cat. No:18900145
Used for MX-RL-Pro
Rotisserie accessory, for
1.5mL x 32 centrifuge
tubes held vertically



Cat. No:18900146
Used for MX-RL-Pro
Rotisserie accessory, for
15mL x 16 centrifuge
tubes held vertically



Cat. No:18900147
Used for MX-RL-Pro
Rotisserie accessory, for
50mL x 16 centrifuge
tubes held vertically



	MX-RD-Pro / MX-RL-Pro	MX-RD-E / MX-RL-E
Voltage [VAC]	100-240	100-240
Frequency [Hz]	50/60	50/60
Power [W]	40	20
Motor type	DC motor	DC motor
Tilt angle [o]	0-90	90
Speed range [rpm]	10-70	0-80
Speed display	LCD	-
Timer	Yes	-
Timer display	LCD	-
Time setting range [min]	1-1199	-
Operation type	Continuous / timed operation	Continuous
Dimensions [DxWxH mm]	220x510x260(MX-RL-Pro) 280x210x300(MX-RD-Pro)	150X530X190(MX-RL-E) 300X220X310(MX-RD-E)
Weight [kg]	8	1.7(MX-RL-E) 2.0(MX-RD-E)
Permissible ambient temperature [°C]	5-40	5-40
Permissible relative humidity	80%	80%
Protection class acc. To DIN EN60529	IP21	IP21

Mixers, Rotators and Rollers

MX-RL-E / MX-RD-E
Classic Rotator

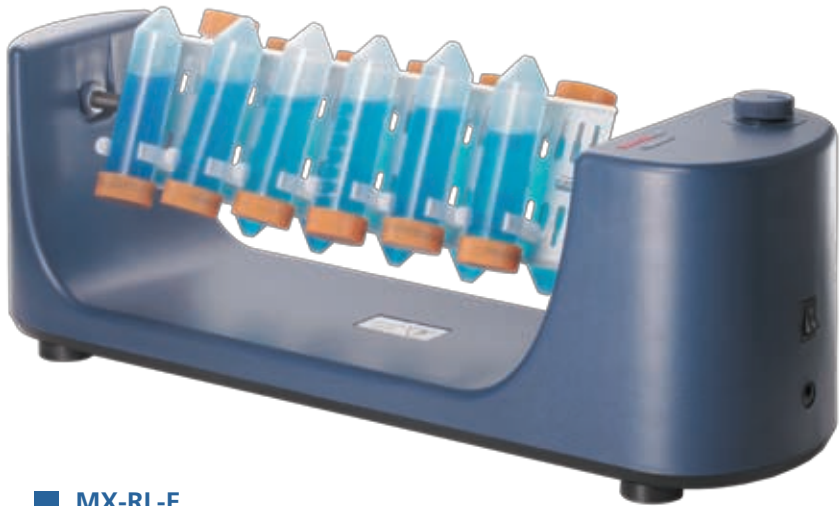
Features:

- Give gentle but effective mixing of biological samples
- Compact space-saving design fits easily in the incubator
- End-over-end or rolling action, gives gentle but effective mixing
- Used with a wide variety of accessories, for micro tubes with a volume range of 1.5mL-50mL
- Adjustable speed range of 0 to 80 rpm

NEW



MX-RD-E



MX-RL-E



Used for MX-RL-E/MX-RD-E
Disk/Rotisserie accessory, for
1.5mL, 15mL and 50mL
centrifuge tubes



Tube Rollers

Our tube rollers provide a gentle but highly efficient rocking and rolling motions, ideal for mixing blood samples, viscous substances and liquid-solid suspensions. Used in a variety applications, prevention of blood coagulation and immune precipitation etc.

MX-T6-S
Classic Tube Roller

Features:

- Rocking and rolling motions for complete mixing
- Speed range of 0-70rpm
- Six roller design with small footprint and easy cleaning
- Designed for continuous operation



MX-T6-S

MX-T6-Pro
LCD Digital Tube Roller

Features:

- Rocking and rolling motions for complete mixing
- LCD display the speed and time
- Speed range of 10-70rpm
- Six roller design with small footprint and easy clean
- Designed for continuous or timed operation



Mixers, Rotators and Rollers

Specifications

	MX-T6-Pro	MX-T6-S
Voltage [VAC]	100-240	100-240
Frequency [Hz]	50/60	50/60
Power [W]	30	25
Motor type	DC motor	DC motor
Rocking motion	Rocking and rolling	Rocking and rolling
Amplitude [mm]	24	24
Max. load capacity [kg]	4	4
Number of rollers	6	6
Roller size (L) [mm]	280	280
Speed range [rpm]	10 -70	0-70
Speed display	LCD	Scale
Timer	Yes	-
Timer display	LCD	-
Time setting range [min]	1-1199	-
Operation type	Continuous / timed operation	Continuous operation
Dimensions [DxWxH mm]	450x260x120	450x260x120
Weight [kg]	5.1	4.5
Permissible ambient temperature [°C]	5-40	5-40
Permissible relative humidity	80%	80%
Protection class acc. To DIN EN60529	IP21	IP21



Shakers

Orbital and Linear Shakers

Digital orbital and linear shakers provide smooth and quiet motions for mixing in culture dishes, flasks and beakers.



SK-O180-Pro / SK-L180-Pro
SK-O330-Pro / SK-L330-Pro
LCD Digital Orbital and Linear Shakers

Features

- Compact, orbital and Linear shakers with an ideal shaking motion, for a maximum shaking weight of 7.5kg and 2.5kg
- Max load capacity (with platform) is 7.5kg or 2.5kg
- Independent LCD display for speed and time adjustment. Speed and timer can be viewed simultaneously
- Wide range of platforms for use with a variety of vessels
- Electronic time switching clock controls time or continuous operation mode
- Brushless DC motor, long service life and maintenance free
- Over speed detection and protection
- Multi-voltage



SK-O180-E/SK-L180-E
Classic Orbital and Linear Shakers

Features

- Orbital and linear shakers with ideal an shaking motion, for a maximum shaking weight (with platform)of 3kg
- Compact space-saving design fits easily in the incubator and refrigerator
- Continuous operation, speed range of 0-200 rpm
- Wide range of platforms for use with a variety of vessels
- Comes with a trans platform
- Multi-voltage



SK-O180-E / SK-L180-E

Specifications

	SK-O330-Pro SK-L330-Pro	SK-O180-Pro SK-L180-Pro	SK-O180-E SK-L180-E
Voltage[VAC]	100-240	100-240	100-240
Frequency[Hz]	50/60	50/60	50/60
Power[W]	30	30	30
Shaking motion	Orbital/Linear	Orbital /Linear	Orbital /Linear
Orbital diameter[mm]	10	4	20
Max. load capacity (with platform) [kg]	7.5	2.5	3
Motor type	Brushless DC motor	Brushless DC motor	DC motor
Motor rating input[W]	28	28	16
Motor rating output[W]	15	15	10
Speed range[rpm]	100-350(Linear) 100-500(Orbital)	100-350(Linear) 100-800(Orbital)	0-200
Speed display	LCD	LCD	-
Timer	Yes	Yes	-
Timer display	LCD	LCD	-
Time setting range[min]	1-1199	1-1199	-
Operation type	Continuous / timed operation		Continuous operation
Dimensions[W×H×D mm]	420×370×100	340×300×100	330×270×110
Weight[kg]	13.5	8.1	3.1
Permissible ambient temperature[°C]	5-40	5-40	5-40
Permissible relative humidity	80%	80%	80%
Protection class acc. DIN EN60529	IP21	IP21	IP21
RS232 interface	Yes	Yes	-

Rocking Shakers & 3D Shakers

Rocking shakers and 3D shakers are suitable for mixing applications in wide fields including, gel staining and destaining, washes, hybridisations, immune precipitation and Western blots etc.



SK-R330-Pro
LCD Digital Rocking Shaker

Features

- Smooth see-saw rocking motion with fixed angle 9°
- Max load capacity (with platform) is up to 10kg
- Speed range of 10-70rpm
- Designed for continuous or timed operation
- Digital speed control and LCD display, speed and timer can be viewed simultaneously
- Wide range of accessory platform to be used for variable size vessels, and non-slip Mat holds vessels and prevents slipping
- Comes with a trans platform
- Multi-voltage



SK-R330-Pro
With non-slip mat



SK-R1807-E
Classic Rocking Shaker

NEW

Features

- Rocking shaker with ideal shaking motion, for a maximum shaking weight(with platform) of 3kg
- Compact space-saving design fits easily in the incubator and cryogenic box
- Wide range of platforms for use with a variety of vessels
- Aluminium-alloyed platform provides strong bearing capability, with non-slip mat holds vessels and prevents slipping
- Continuous operation, speed range of 0-80 rpm
- Comes with a trans platform
- Multi-voltage



SK-R1807-E
With non-slip mat

Specifications

	SK-R330-Pro	SK-R1807-E
Voltage [VAC]	100-240	100-240
Frequency [Hz]	50/60	50/60
Power [W]	50	20
Motor type	DC motor	DC motor
Rocking motion	See-saw rocking	See-saw rocking
Tilt angle [°]	9 °	7 °
Max. load capacity (with platform) [kg]	10	3
Speed range [rpm]	10-70	0-80
Speed display	LCD	-
Timer	Yes	-
Timer display	LCD	-
Time setting range [min]	1-1199	-
Operation type	Continuous / timed operation	Continuous operation
Dimensions [D×W×H mm]	410×360×200	330×270×130
Weight [kg]	9	3.2
Permissible ambient temperature [°C]	5-40	5-40
Permissible relative humidity	80%	80%
Protection class acc. To DIN EN60529	IP21	IP21



SK-D3309-Pro
LCD Digital 3D Shaker

Features

- Gentle 3D motion with fixed angle 9°
- Max load capacity (with platform) is up to 5kg
- Speed range of 10-70rpm
- Designed for continuous or timed operation
- Independent LCD display for speed and time adjustment. Speed and timer can be viewed simultaneously
- Wide range of accessory platform to be used for variable size vessels, and non-slip mat holds vessels prevent slipping
- Multi-voltage



SK-D3309-Pro
With non-slip mat

SK-D1807-E
Classic 3D Shaker

Features

- 3D shaker with ideal shaking motion, for a maximum shaking weight of 3kg
- Compact space-saving design fits easily in the incubator and cryogenic box
- Wide range of platforms for use with a variety of vessels
- Aluminium-alloyed platform provides strong bearing capability, with non-slip mat holds vessels prevent slipping
- Continuous operation, speed range of 0-80 rpm
- Multi-voltage



SK-D1807-E
With non-slip mat

NEW

Optional accessories of Shaker



Cat. No.	18900027	18900040	18900155	18900028	18900025	18900038	18900039	18900026
P/N	SK330.1	SK330.3	SK330.5	SK330.2	SK180.1	SK180.3	SK180.4	SK180.2
Descriptions	Universal attachment with 4 bars	Lengthways roller attachment	Dish platform with non-slip mat and fixed string (8 pcs)	Fixing clip attachment	Universal attachment with 3 bars	Lengthways roller attachment	Dish attachment with non-slip mat	Fixing clip attachment
Used with Shakers								
Rocking Shaker	•	•	•	•				
3D Shaker	•	•	•	•				
Orbital and Linear Shaker(7.5kgs)	•	•	•	•				
Orbital and Linear Shaker (2.5kgs)					•	•	•	•
E series(3kgs)					•	•	•	•



Specifications

	SK-D3309-Pro	SK-D-1807-E
Voltage [VAC]	100-240	100-240
Frequency [Hz]	50/60	50/60
Power [W]	40	20
Motor type	DC motor	DC motor
Rocking motion	3D orbital	3D orbital
Tilt angle [°]	9°	7°
Max. load capacity (with platform) [kg]	5	3
Speed range [rpm]	10-70	0-80
Speed display	LCD	-
Timer	Yes	-
Timer display	LCD	-
Time setting range [min]	1-1199	-
Operation type	Continuous / timed operation	Continuous operation
Dimensions [DxWxH mm]	430x360x106	330x270x130
Weight [kg]	9	2.7
Permissible ambient temperature [°C]	5-40	5-40
Permissible relative humidity	80%	80%
Protection class acc. To DIN EN60529	IP21	IP21



Cat. No.	18900029	18900030	18900031	18900032	18900033	18900036	18900037
Descriptions	Fixing clip for flask volume 25mL, used with SK330.2 & SK180.2	Fixing clip for flask volume 50mL, used with SK330.2 & SK180.2	Fixing clip for flask volume 100mL, used with SK330.2 & SK180.2	Fixing clip for flask volume 200/250mL, used with SK330.2 & SK180.2	Fixing clip for flask volume 500mL, used with SK330.2 & SK180.2	Bar for SK330.1 universal attachment	Bar for SK180.1 universal attachment
Used with Shakers							
Rocking Shaker	•	•	•	•	•	•	
3D Shaker	•	•	•	•	•	•	
Orbital and Linear Shaker(7.5kgs)	•	•	•	•	•	•	
Orbital and Linear Shaker (2.5kgs)	•	•	•	•	•		•
E series(3kgs)	•	•	•	•	•		•

D-160 & D-500
Homogenizers

Applications

The Homogenizer is widely used in fields of Biotechnology, Human and veterinary medicine/ clinical medicine, Pharmaceutical industry, Cosmetics industry, Food industry, Petrochemistry, Paint and lacquer industry etc.

D-160
Handheld Homogenizer

Features

- Ideal for manual operation due to its light weight and ergonomic design
- Sample Volume Range: 0.1-50mL or 1-250mL
- Autoclavable 316 L stainless steel shafts, inert to aggressive solutions
- All shafts are inter changable shafts and are easily removed for cleanup
- 6 position speed control ,Speed control from 8,000 to 30,000 rpm.



D500
Homogenizer

Features

- Viscosity up to 10,000 mPas
- 7 position speed control, speed control from 10,000 to 30,000rpm
- Triple safety of the drive, overload protection and smooth start – against jerky work, safety switch
- 316L steel High quality dispersing tools as standard for better resistance to corrosion
- Quick change system of the dispersing tools for a short changing time between preparations



Specifications

	D 160	D500
Power Supply	110-120V/60Hz, 220-240V / 50-60 Hz	110-120V/60Hz, 220-240V/50-60 Hz
Motor Type Universal motor,	160 Watt	500 Watt
Speed Range	8000-30000rpm	10000-30000rpm
Max. Circum. Speed	6.3-14m/sec	22.7-36m/sec
Speed Control Dial knob	6 stage	7 stage
Working Volume (mL, H2O)	0.1-50mL (Dispersing shaft DS-160/5)	10-40000mL (Optional)
	1-250mL (Dispersing shaft DS-160/10)	10-40000mL (Optional)
Max. Viscosity	5,000mPas	10,000 mPas
Material of Dispersing Shaft SS 316L stainless steel	PTFE	PTFE
Weight	0.6 kg	1.3 kg
Dimension L x W x H	46mm x 55mm x 230mm	70mm x 70mm x 255mm
Noise	72 dB(A)	79 dB(A)
Operating Environment	0-40°C, 85% rel. humidity	0-40°C, 85% rel. humidity

Protection Class IP20 IP20



D500 Homogenizer

Dispersing shaft 1



SS20CSR20 Cat No. 18900115

- Volume 10-5000mL
- Max. Circum. Speed 22.7m/sec
- Applications:
Dispersing shaft 1 for solid/liquid media
Ultimate emulsion fitness 1-10µm
Ultimate suspension fitness 10-50µm

Dispersing shaft 2



SS20FER20 Cat No. 18900116

- Volume 10-5000mL
- Max. Circum. Speed 22.7m/sec
- Applications:
Dispersing shaft 2 for W/O or O/W emulsions
Ultimate emulsion fitness 1-10µm
Ultimate suspension fitness 10-50µm

Dispersing shaft 5 mm

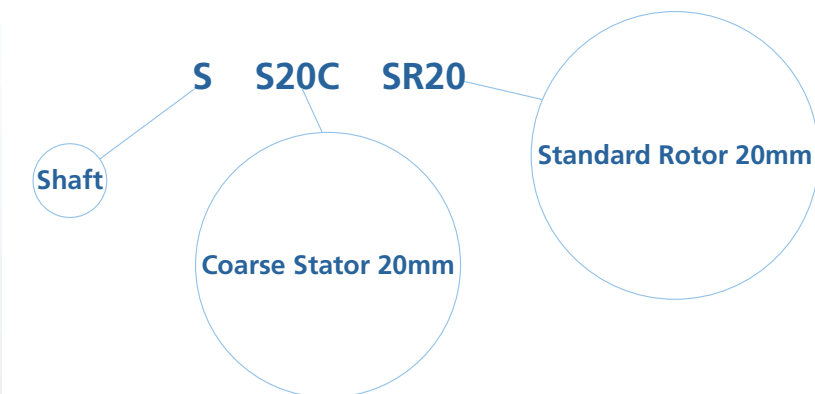


SS5CSR5 Cat No. 18900117

- Volume 1-50mL
- Max. Circum. Speed 5,8m/sec
- Applications:
Dispersing shaft 5mm for solid/liquid media
Dispersing of tissue decomposition, clinical & medical diagnostics and suspensions. Suitable for centrifuge products and Eppendorf tubes

Homogenizers

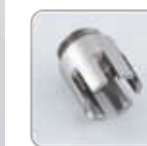
Summary of Options



Components of Dispersing shaft

- Material used for shaft is high grade fine 316L stainless steel and PTFE for seal
- Dispersing shaft consists of shaft tube, axle, PTFE for seal, a rotor and a stator

Stator



S20C



S20F



S30C



S30F



S40C

Rotor



SR20



SR30



CR20



CR30



MR20



MR30



ER20



ER30



Centrifuges

Palm Micro Centrifuges

D1008 & D1008E Palm Micro Centrifuge

Features

- Ideal for microfiltration and quick spin-downs
- Easy-to-use with dual start/stop function
- 7000rpm fixed speed (D1008)
- 5000rpm fixed. speed (D1008E)
- Equipped with 2mL x 8 and PCR8 x 2 rotors
- Quiet running, noise level ≤45 dB
- Rotor change without tools
- Accelerates and brakes in seconds
- Four colors with green, blue, yellow and pink
- Multi-voltage



D1008
CE explosion-proof safe test
IEC/EN61010-2-20

Specifications

	D1008	D1008E
Max. Speed [rpm]	7000	5000
Max. RCF[xg]	2680	1360
Rotor Capacity	0.2/0.5/1.5/2.0mLx8; 0.2mLx16 PCR strips or 0.2mLx2 PCR 8 strips	0.2/0.5/1.5/2.0mLx8; 0.2mLx16 PCR strips or 0.2mLx2 PCR 8 strips
Run Time	Continuous operation	Continuous operation
Driving Motor	DC motor	DC motor
Power	AC100-240V/50Hz/60Hz	AC100-240V/50Hz/60Hz
Noise level(dB)	≤45	≤45
Dimensions [DxWxH mm]	150 x 150 x 117	150 x 150 x 117
Weight [kg]	0.5	0.5

Available rotors and adapters

Centrifuge	D1008/D1008E	
		
Rotor P/N	A08-2	A02-PCR8
Cat No.	19400015	19400017
Max. speed (rpm)	7000/5000	7000/5000
Max. RCF (xg)	2680/1360	2680/1360
Rotor capacity	2mL/1.5mLx8 0.2mLx8 0.5mLx8	0.2mLx16 PCR strips 0.2 mLx2 PCR 8 strips
Rotor material	High strength plastic	High strength plastic
Bio-safe (Bio sealing)	N/A	N/A
Available rotor adapters		N/A
SA02P2	•	
SA05P2	•	



Available rotors and adapters

P/N	Cat No.	Descriptions
SA02P2	19200029	2mL to 0.2mL rotor adapter, used with A08-2 rotor,8pcs/pk
SA05P2	19200026	2mL to 0.5mL rotor adapter, used with A08-2 rotor,8pcs/pk



High Speed Micro Centrifuge

High speed micro-centrifuges are widely used in physical and chemistry analysis, biochemistry, cellular and molecular biology, clinical Labs and blood donation centers, and is ideal for high-end research applications:

- Sedimentation of cells and viruses
- Separation of sub-cellular organelles
- Isolation of macromolecules such as DNA, RNA, proteins or lipids

Precise control

- Brushless DC motor accelerates quickly and effortlessly to the set speed
- High accuracy of speed in ± 20 rpm
- Operation can be timed from 30 seconds to 99 minutes or used in continuous mode
- Timer starts once the target speed reached, for accurate separation time

High Speed Micro Centrifuges

Safety and Advantages

Conforms to international safety standards and regulations

- DRAGONLAB is the first Centrifuge manufacturer in China that cooperates with TÜV Rheinland Company and its Centrifuges have passed CB scheme by TÜV Rheinland China and marked with CE, cTÜVus and FCC.

All test items are positive which according to IEC/EN 61010-1 and MCA test according to IEC/EN61010-2-20, including explosion-proof and bio-safe tests.

- Quiet and stable operation for the lab
- High strength metal casing ensures security of centrifugal process
- Dual door interlock design for safety(D3024 & D3024R)
- Gentle braking at low speed with efficient separation

Ergonomic design

- User-friendly large LCD display shows running information
- Both RPM or G-force can be set and displayed
- The parameters can be modified after the set speed is reached.
- The short spin function is used for quick spins by pressing and holding PULSE key. The centrifuge speed can be accelerated and held at the target speed.
- Automatic lid opening when run is complete – prevents sample warming and allows easy access to samples (excluding D3024R)
- Easy-to-read display and sound alerts





D2012 & D2012 plus High Speed Mini Centrifuge

Aluminum alloy rotor with high mechanical strength
Fully autoclavable and unlimited service life

D2012

With A12-2 aluminum alloy rotor kit



High strength plastic rotor with CE mark.
Low noise $\leq 54\text{dB}$;
Delivers fast acceleration and deceleration

D2012 plus

With A12-2P plastic rotor kit



CE FC

Powerful personal centrifuge

- Powerful centrifugal force 15100xg and Max speed 15000rpm, serves many applications
- Brushless DC motor drive quickly and effortlessly accelerates the rotor to the set speed
- The rotor is designed for 1.5/2.0mL tubes and smaller 0.2mL and 0.5mL tubes through use of adapters.

Conforms to international safety standards and regulations

- **D2012** has tested according to IEC/EN 61010-1.
- Cast iron chassis with low gravity, provides stable and reliable running at maximum speed
- Multi voltage design with high speed accuracy and reliable running
- **D2012 Plus** has passed explosion-proof test and marked with CE, cTUVus and FCC. MCA test according to IEC/EN61010-2-20.

The two models are applicable to different software and rotors cannot be swapped with each other



D3024 High Speed Micro Centrifuge



CE FC

2-point lid-lock mechanism – ensures secure closure
Automatic lid opening when run is complete

High strength aluminum alloy rotor can be fully autoclaved with unlimited service life

Special multi-flow air cooling design (Patent No. 201120322916.0) helps keep lower rotor temperature

Intuitive symbols –display run status

Full-digit speed display (rpm/Rcf) – easy identification of parameters

Centrifuge goes into a self diagnostics when switched on and then displays accumulative running time and last running parameters

The short spin function is used for quick spins by pressing and holding PULSE key



Special multi-flow air cooling design protects sensitive samples (D3024)
FastTemp function for fast pre-cooling and maximum temperature accuracy inside the rotor (D3024R)





D3024

With AS24-2 aluminum alloy rotor kit

Unique Features

- Special multi-flow air cooling design(Patent No. 201120322916.0) helps to keep lower rotor temperature
- Unique cooling system design minimizes rotor heating to less than 10°C after running for 1 hour
- Unique temperature display protects sensitive samples

Rotor capacity

- Bio-safe rotor/anti-sample overflow, ensures the sample does not leak in centrifugal process causing microbial contamination
- High strength aluminum alloy rotor can be fully autoclaved, for unlimited service life
- Four rotors are optional, comes with 24 place 1.5/2.0mL tubes and smaller 0.2mL and 0.5mL tubes with the use of adapters.



High Speed Micro Centrifuges

D3024R

High Speed Refrigerated Micro Centrifuge



The lid remains closed after spins to keep the chamber temperature and protect sensitive samples

FastTemp function for fast pre-cooling and maximum temperature accuracy inside the rotor

Powerful and efficient cooling system quickly cools down chamber to 2°C only in 7 minutes and maintains the samples temperature under 2°C at maximum speed with a room temperature at 25°C.

CE FC

Rotor capacity

- Bio-safe rotor/anti-sample overflow ensures the samples do not leak during the centrifugal process helps prevent microbial contamination
- High strength aluminum alloy rotor can be fully autoclaved, with unlimited service life
- Four rotors are optional, comes with 1.5/2.0mL x24 tubes. Smaller 0.2mL and 0.5mL tubes can be used with adapters.

Powerful and efficient cooling system

- Pre-cooling provides cool down prior to operation and keeps the chamber at the pre-set temperature
- Powerful cooling system quickly cools down chamber to 2°C after only 7 minutes and maintains the samples temperature under 2°C at maximum speed.
- Sound alert and the lid remains closed after operation to maintain the chamber temperature
- Intermittent temperature control mode, CFC-free refrigerant and low carbon life



D3024R

With AS24-2 aluminum alloy rotor kit





Rotor Features

Fully autoclavable rotors

High strength aluminum alloy rotors are fully autoclavable, withstanding steam sterilizing at 121°C for 20 minutes, for unlimited service life.

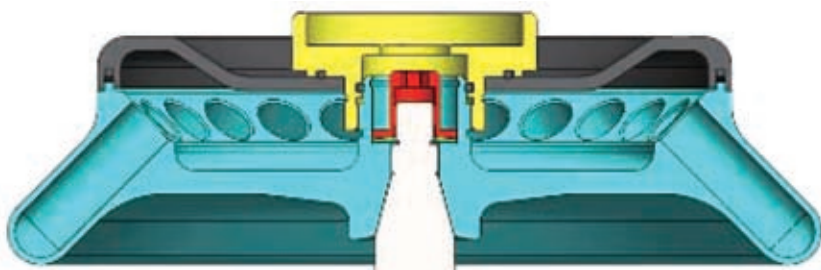
Bio-safe rotors

D3024 & D3024R rotors are designed to prevent the sample leakage. There are three rubber seals fitted to the rotor to achieve bio-seal condition. The rotor is bio-safe when the centrifuge tubes are enclosed into rotor and the rotor lid is closed.

Explosion-proof test

DRAGONLAB centrifuges are checked under MCA conditions according to IEC/EN61010-2-20, causing disruption by partially cutting and overloading rotor assembly, and guarantees that no part of centrifuge shall become detached in such a way as to present a hazard to personal or the environment.

There are three rubber seals fitted within the rotor to achieve bio-safe condition



Seals within the aluminum alloy rotor



Dragonlab is the first producer in China has past explosion-proof and microbiological safe tests. IEC/EN61010-2-20

High Speed Micro Centrifuges

Specifications

	D2012 & D2012 plus	D3024	D3024R
Max. Speed [rpm]	15000rpm (500-15000rpm), increment:100rpm	15000rpm (200-15000rpm), increment:10rpm	15000rpm (200-15000rpm), increment:10rpm
Max. RCF [xg]	15100xg, increment:100xg	21380xg, increment:10xg	21380xg, increment:10xg
Speed Accuracy [rpm]	±20 rpm	±20 rpm	±20 rpm
Temperature Range	N/A	N/A	-20°C~40°C
Rotor Capacity	0.2mL/0.5mL/1.5mL/ 2mL×12	5mL×18; 0.2mL/0.5mL/1.5mL/ 2mL×24; 0.5mL×36; PCR8×4	
Run Time	30sec-99min-HOLD (Continuous operation)		
Driving Motor	Brushless DC motor		
Safety Devices	Door interlock, Over-speed detection; Over-temperature detection; Automatic internal diagnosis Dual door interlock, Over-speed detection; Over-temperature detection; Automatic internal diagnosis		
Power	Single-phase, AC110V-240V, 50Hz/60Hz, 3A	Single-phase, AC220V-240V, 50Hz/60Hz, 5A; AC110V-120V, 50Hz/60Hz, 8A	Single-phase, AC220V-240V, 50Hz/60Hz, 10A; AC110V-120V, 50Hz/60Hz, 10A
Noise level [dB]	≤56(D2012) ≤54(D2012 plus)	≤58	≤56
Acceleration /Braking time [Sec]	25s ↑ 25s ↓ (D2012) 11s ↑ 9s ↓ (D2012 plus)	25s ↑ 25s ↓	25s ↑ 25s ↓
Dimensions [mm]	(L)255×(D)245×(H)140	(L)280×(D)364×(H)266	(L)338×(D)580×(H)324
Weight	6kg	12kg	30kg
Additional Features	Speed/RCF switch; Short-time run function; sound-alert function		





Available rotors and adapters



Centrifuges	D2012	D2012 plus	D3024 & D3024R			
						
Rotor P/N	A12-2	A12-2P	AS24-2	AS18-5	AS36-05	AS4-PCR8
Cat No.	19400001	19400009	19400002	19400011	19400003	19400004
Max. speed (rpm)	15000	15000	15000	15000	15000	15000
Max. RCF (xg)	15100	15100	21380	21380	21380	21380
Rotor capacity	2mL/1.5mLx12 0.2mLx12 0.5mLx12	2mL/1.5mLx12 0.2mLx12 0.5mLx12	2mL/1.5mLx24 0.2mLx24 0.5mLx24	5mLx18	0.5mLx36 0.2mLx36	0.2mL/PCR8x4
Rotor material	Aluminum alloy	High strength plastic	Aluminum alloy			
Bio-safe (Bio sealing)			•	•	•	•
Rotor adapters				N/A		N/A
A02P2	•	•	•			
A05P2	•	•	•			
A02P05					•	

Available rotor adapters



P/N	Cat No.	Descriptions
A02P2	19500001	2mL to 0.2mL rotor adapter, used with A12-2, A12-2P, AS24-2 and A24-2P rotors, 24pcs/pk
A05P2	19500002	2mL to 0.5mL rotor adapter, used with A12-2, A12-2P, AS24-2 and A24-2P rotors, 24pcs/pk
A02P05	19500003	0.5mL to 0.2mL rotor adapter, used with AS36-05 rotor, 36pcs/pk

Clinical Centrifuges

Clinical centrifuges are widely used in the separation of serum, plasma, urea, blood samples and other routine applications in hospital and research laboratories.

Safety and Advantages

Conforms to international safety standards and regulations

- DRAGONLAB clinical centrifuges have passed the explosion-proof test and marked with CE, cTÜVus and FCC. MCA test according to IEC/EN61010-2-20
- Passed EN61010-2-101:2002 particular requirements for in vitro diagnostic (IVD) medical equipment
- High strength plastic rotor and excellent balance technology to guarantee a quiet and stable operation
- Dual protection casing provides safe and reliable running
- Brushless DC motor drive quickly and effortlessly accelerates the rotor to set speed



Precise control

- CPU controls all operating parameters including speed and time
- High accuracy of speed
- Operation can be timed from 30 seconds to 99 minutes or continuous running
- Timer commences once the set speed is reached, so the separation time is more accurate
- Gentle braking at low speeds with efficient separation

Ergonomic design

- User-friendly large LCD display show all information
- RPM or G-force can be set and displayed
- Parameters can be modified after the set speed is reached
- Quick spins are possible by pressing and holding PULSE key. The centrifuge speed can be accelerated and held at the target speed.
- Automatic release the lid when operation has stopped to save processing time
- Easy-to-read processing display and sound alert





Clinical Centrifuges

The DM0412&DM0412E clinical centrifuges are practical centrifuges for use with small sample volumes. The centrifuges are supplied with an angle rotor that can hold up to 15mLx8 or 10mL/7mL/5mLx12 vacuum tubes. They are widely used in medical and veterinary practices for the centrifugation of blood and urine samples, in environmental analyses for the clarification of water and soil samples or in schools and other educational facilities as an aid for teaching.

DM0412 Clinical Centrifuge

Unique Features

- Micro-computer control, that gives high accuracy speed control.
- Digital LCD display, can show the real-time parameters and have the symbol showing the experimental process.
- Set and display rotor speed shown in RPM or G-force
- Brushless DC motor, it is no pollution and free maintenance
- The short spin function is used for quick spins by pressing and holding PULSE key
- Built with electrical lock, automatic release the lid when rotor stops to save processing time and prevents samples overheating
- Go into a self-diagnostic check when switched on and then displays accumulative running time and last running parameters



DM0412

CE FC



Clinical Centrifuges

DM0412E Clinical Centrifuge

Features

- Max. speed is 4500rpm
- Precise control speed and time with efficient separation
- Faster acceleration and deceleration
- Suit for 15mL cell culture tubes and full line of collection tubes, ideal for a clinical lab
- Rotor capability :15mLx8 or 10mL/7mL/5mLx12



DM0412E

Available rotor and adapters

Rotor type	Available tubes	Tube quantity	Dimension (Φ×L mm)	Adapters	Maximum speed(rpm)	Radius (cm)	Maximum RCF (×g)
A12-10P	15mL con	8	17×120		4500	11	2490
	1.5-5mL vacu	12	13×82	A10P15 & Mat	4500	9.8	2218
	4-7 mL vacu	12	13×106	A10P15	4500	11	2490
			16×75	A10P15 & Mat		9.8	2218
	8.5-10 mL vacu	12	16×107	A10P15	4500	11	2490
	2.7-3 mL(EU) collection tube	12	11×66	A10P15 & Mat	4500	9.8	2218
	7.5-8.2 mL(EU) collection tube	12	15×92	A10P15	4500	11	2490

REMARK: A12-10P rotor is made of plastic and cannot be autoclaved or UV irradiation, only ordinary sterilization can be used.

DM1424
Hematocrit Centrifuge

Our hematocrit centrifuge with AC24P hematocrit rotor is used for determination of volume fractions of erythrocytes in blood for diagnostic purposes and doping tests. Also it is used to used to derive plasma for the photometric determination of the bilirubin content of the blood of neonates.

Hematocrit centrifuge with A24-2P tube rotor is suit for 1.5/2mL tubes, which can be used for extraction of DNA and RNA.



CE FC

DM1424
AC24P hematocrit rotor kit with a lid and a reading disk

Features

- Speed range of 200-14000rpm, Max. RCF 18620×g
- Precise control speed and time with efficient separation
- LCD digital display
- Brushless DC motor
- Pulse operation for quick spins
- Rotor capacity: Hematocrit rotor: 24 capollary Max. speed:12000rpm
Tube rotor: 1.5/2mLx24 Max. speed: 14000rpm



Specifications

	DM0412	DM0412E	DM1424
Max. Speed [rpm]	300-4500, increment: 100	4500, increment: continue	200-14000, increment: 10
Max. RCF [xg]	2490xg, increment: 100xg	2490xg, increment: continue	18620xg, increment: 10xg
Speed Accuracy [rpm]	±20	-	±30
Rotor Capacity	10mL/7mL/5mLx12; 15mLx8	10mL/7mL/5mLx12; 15mLx8	Tube rotor: 1.5/2mLx24 (14000rpm); Hematocrit rotor: capillary tubes x24 (12000rpm)
Run Time	30sec-99min-HOLD (Continuous operation)	0-30min	30sec-99min-HOLD (Continuous operation)
Driving Motor	Brushless DC motor	DC motor	Brushless DC motor
Safety Devices	Door interlock, Over-speed detector; Automatic internal diagnosis	Door interlock, Over-speed detection	Door interlock, Over-speed detector; Over-temperature detector; Automatic internal diagnosis; Automatic rotor identification
Power	Single-phase, 110V-240V, 50Hz/60Hz, 3A	Single-phase, 220V-240V, 50Hz/60Hz, 3A; 110V-120V, 50Hz/60Hz, 3A	Single-phase, 220V-240V, 50Hz/60Hz, 5A; 110V-120V, 50Hz/60Hz, 5A
Noise level [dB]	≤56	≤56	≤60
Acceleration /Braking time [Sec]	20s ↑ 20s ↓	25s ↑ 25s ↓	20s ↑ 20s ↓
Dimensions [mm]	(L)255 x(W)245x(H)140	(L)255 x(W)245x(H)140	(L)280x(W)364x(H)266
Weight	6 kg	6 kg	10kg
Additional Features	Speed/RCF switch; Short-time run function; sound-alert function	sound-alert function	Speed/RCF switch; Short-time run function; sound-alert function





Available rotors and adapters



Centrifuges	DM0412	DM0412E	DM1424	
				
Rotor P/N	A12-10P	A12-10P	A24- 2P	AC24P
Cat No.	19200348	19200358	19400019	19400014
Max. speed (rpm)	4500	4500	14000	12000
Max. RCF (xg)	2490	2490	18620	13680
Rotor capacity	15mLx8 10mL/5mL/7mLx12	15mLx8 10mL/5mL/7mLx12	2mL/1.5mLx24 0.2mLx24 0.5mLx24	capillary tubes x24
Rotor material	High strength plastic	High strength plastic	High strength plastic	High strength plastic
Rotor adapters				N/A
A02P2			•	
A05P2			•	
A10P15 & Mat	•	•	•	

Available Rotor adapters



P/N	Cat. No.	Descriptions
A02P2	19500001	2mL to 0.2mL rotor adapter, used with A12-2, A12-2P, AS24-2 and A24-2P rotors, 24pcs/pk
A05P2	19500002	2mL to 0.5mL rotor adapter, used with A12-2, A12-2P, AS24-2 and A24-2P rotors, 24pcs/pk
A10P15	19200027	Rotor adapter, used with A12-10P, 12pcs/pk
	19200028	Rotor adapter mat, used with A10P15, 12pcs/pk