



BIO-DL Corporation



HH-12K



HL-7K、HM-10K

Technology Creates The Future

## HL-7K、HM-10K

- More precise control of voltage, current, speed and separation, to ensure that its constant speed will not change with voltage or load changes;
- Speed up to the rated speed within 3 seconds;
- Resist all kinds of chemical corrosion.

## HH-12K

- Reliable and durable DC permanent magnet motor, speed range is wider 500 ~ 12000rpm, accuracy  $\pm 5\%$ ;
- Unique rotary snap-on installation design, you can easily replace the rotary without any tools, so that the experimenter can change the rotary more easily and quickly;
- The high-strength host and rotor material can resist all kinds of chemical corrosion, and the rotor has high temperature disinfection function.

# BIO-DL Mini Centrifuge

Mini centrifuge adopts international advanced design concept and manufacturing technology, it has smooth and beautiful appearance, compact and stable structure, adhering to the advantages of high versatility, easy operation, and has the characteristics of "stable start" and "stable braking" features; it is very suitable for microtube filtration and rapid centrifugation, micro blood cell separation, microbial sample processing, PCR experiment partition centrifugation, preventing liquid from hanging in the centrifuge tube and other phenomena, it would be the top choice for processing small centrifuge samples.



HL-7K、HM-10K



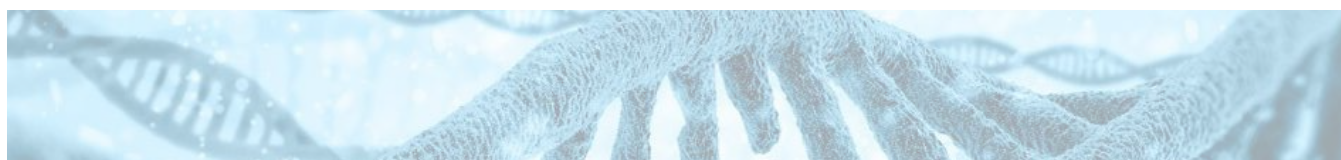
HH-12K

## Product Features

- ✦ Using the advanced high-frequency full-range and wide-range power supply control scheme, in line with AC100-250V / 50 / 60Hz input power supply, it could accurately control voltage, current, speed and relative separation, to ensure that its constant speed will not follow changes in voltage or load;
- ✦ Faster acceleration and deceleration make the time required to complete the experiment shorter and accelerate to the rated speed within 3 seconds;
- ✦ The unique snap-on installation design of the rotor allows the rotor to be replaced without any tools, allowing experimenters to change the rotor easily and quickly;
- ✦ The high-strength host and rotor material can resist various chemical corrosion;
- ✦ The use of high-efficiency DC permanent magnet motor, RSS material shock absorption, the operation is more stable;
- ✦ The rotation space is a 360 degrees, without clamping, resistance, temperature rise, and ultra-quiet sound. The overall noise is  $\leq 47\text{dB}$ .

## Product Features

- ✦ Using the advanced and reliable PI high-frequency full-range wide-range power supply control scheme is in line with the power supply around the world. Through 16-bit MCU calculation PWM speed control, voltage, current, speed and effective separation time can be controlled more accurately to ensure extending the service life of the motor and controlling the electromagnetic noise;
- ✦ Isolation speed step adjustment is 500rpm, effective separation time range: 1-99 minutes or 1-59 seconds;
- ✦ Faster acceleration or deceleration rate, required to complete the experiment in a shorter time;
- ✦ The novel composite test tube rotor and compatible with more test tube rotors meet the basic needs of the experiment;
- ✦ Cover protection, overspeed and unbalance detection system, which can monitor the separation process in real time to ensure the safe operation of the instrument. When the operation is completed, errors and unbalance occur, the sound signal is prompted, operation is stopped and code displayed at the same time.



# BIO-DL Mini Centrifuge



#1 Angle Type Rotor

Unit Volume:  
2/1.5/0.5/0.2ml

Total Centrifugal Capacity:  
2/1.5/0.5/0.2ml×8



#2 Conversion Adapter

Unit Volume: 0.5ml

Total Centrifugal Capacity:  
0.5ml×8



#3 Conversion Adapter

Unit Volume: 0.2ml

Total Centrifugal Capacity:  
0.2ml×8



#4 PCR Tube

Unit Volume: 0.2ml

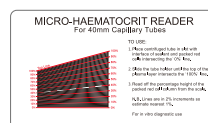
Total Centrifugal Capacity:  
0.2ml×8×4



#5 Capillary Rotor

Unit Volume: 20μl  
Φ1.5mm×L40mm

Total Centrifugal Capacity:  
20μl×12



#6 Capillary Reading Card

Mini-P-2



#7 Capillary Sealing Wax Plate

Mini-P-3

## Host Parameters

Product Number	HL-7K	HM-10K	HH-12K
Input Power [W]	18W	25W	45W
Control Method	PI power	PI power	ST 16-bit MCU/PWM/speed control
Rotor Capacity [ml]	Angle type rotor : 2/1.5/0.5/0.2ml×8 PCR rotor : 0.2ml×8×4(PCR tube)	Angle type rotor : 2/1.5/0.5/0.2ml×8 PCR rotor : 0.2ml×8×4(PCR tube)	Compound Angle type rotor: 1.5/2.2×12+ PCR0.2×8×4 Rows
Maximum Speed[r/min.]	7,000r/min.±3%	10,000r/min.±3%	12,000r/min.±5%
Maximum Relative centrifugal force [×g]	2,910×g	5,610×g	9,660×g
Dimensions:	155×168×118mm	155×168×118mm	194×229×120mm
Weight	1.2Kg	1.2Kg	2Kg
Noise at Maximum Speed (≈)	≤43dB(A)	≤45dB(A)	≤47dB(A)
Fastest Acceleration Time [sec]	≤3s	≤3s	≤12s
Fastest Deceleration Time [sec]	≤3s	≤3s	≤16s
Input Power	AC100-250V/50/60Hz		
Allowed Temperature Relative Humidity	5-40°C/80%		
Motor	DC24V/ dc permanent magnet motor		
Power Fuse	PPTC/ resettable fuses / no need to change		
Protection Level	IP21		
Testing Standards	EN 61010-1,EN 61010-2-020,EN 61326-1,EN 61010-3-2/A2		

Note: When the ambient temperature is 23 °C.

# BIO-DL Mini Centrifuge

## Rotor Parameters

Product Name	Model	Rotor	Volume (ml×tube)	Max. Speed (r/min)	Maximum Relative Centrifugal Force(×g)
Centrifuge HL-7K	Mini-A-1	#1 Angle Type Rotor	2/1.5/0.5/0.2ml×8holes	7000	2910
	Mini-A-2	#2PCR Row Tube	0.2ml×8holes×4rows	7000	1643
Centrifuge HM-10K	Mini-A-1	#1 Angle Type Rotor	2/1.5/0.5/0.2ml×8holes	10000	5610
	Mini-A-2	#2PCR Row Tube	0.2ml×8holes×4rows	10000	3354
Centrifuge HH-12K	HH-12K-A-1	#1 Compound Angle Rotor	1.5/2.2×12+PCR0.2×8holes×4rows	12000	9500
Centrifuge HH-12K	HH-12K-A-2	#2 Angle Type PCR Rotor	0.2ml×12holes×4rows	12000	5960
Centrifuge HH-12K	HH-12K-A-3	#3 Angle Type Rotor	5ml×4holes cone bottom tube with lid	12000	9660
Centrifuge HH-12K	HH-12K-A-4	#4 Capillary Hematocrit Rotor	1.5mm in diameter × 40mm in length capillary × 12	12000	8371
Centrifuge HH-12K	HH-12K-A-5	#5 Angle Type Rotor	5/1.8/1.1ml×4rows/vertical screw tube	7000	3180

## Ordering Information

Item Number	Product Name	Note
5500100B	Centrifuge HL-7K	
5500101B	Centrifuge HM-10K	
accessories		
5500100B-1	Angle Type Rotor 2/1.5ml×8holes	Default
5500100B-2	Row Tube Rotor 0.2ml×8holes×4rows	Default
5500100B-3	Conversion Adapter 0.5ml×8	Default
5500100B-4	Conversion Adapter 0.2ml×8	Default
Item Number	Product Name	Note
5500102B	Centrifuge HH-12K	
Accessory		
5500102B-1	Compound Angle Rotor 1.5/2ml×12+PCR0.2ml×8holes×4rows	Default
5500102B-2	PCR Tube Rotor 0.2ml×12holes×4rows	Default
5500102B-3	Angled Rotor 5ml×4holes/cone bottom tube with lid	Optional
5500102B-4	Capillary hematocrit rotor 1.5mm in diameter × 40mm in length capillary × 12	Optional
5500102B-5	Angle type rotor 5ml × 4 / vertical screw tube	Optional
5500102B-6	Conversion adapter 0.5ml × 12pcs / standard HH-12K-A-1	Optional
5500102B-7	Conversion adapter 0.2ml × 12pcs / standard HH-12K-A-1	Optional
5500102B-8	Conversion adapter 1.8 / 1.1ml × 4 / standard HH-12K-A-5	Optional
5500102B-9	Hematocrit rotor reading card / standard HH-12K-A-4 / 1	Optional
5500102B-10	Capillary sealing plate / standard HH-12K-A-4 / 1	Optional
5500102B-11	40mm long capillary tube/ 100 pcs/bucket (red/blue lable for selection)	Optional



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