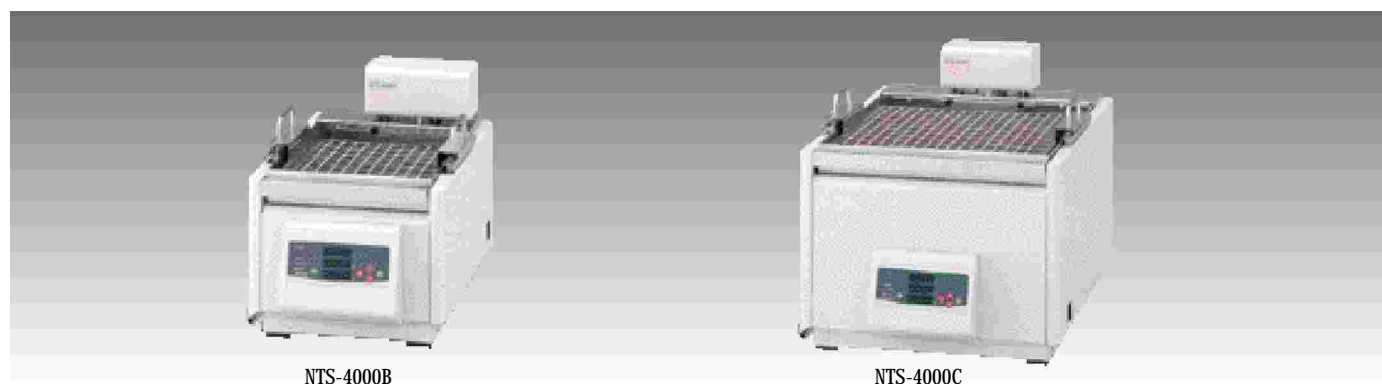


Water Bath Shaker NTS-4000BM · CM · CH



NTS-4000B

NTS-4000C

Operation panel



■ Easy operation

Temperature setting, shaking speed and time are controlled by microprocessor from front panel. Microprocessor controls each setting and stops heating and shaking when sensor detects abnormal signal. Setting and display are digital and equipped with integration function.

■ One touch shelf box mounting

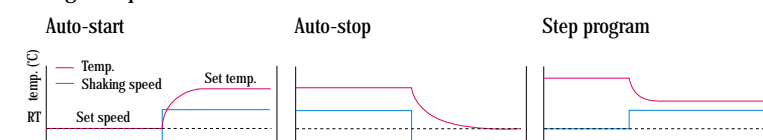
Mounting/dismounting of shelf box is by one touch operation. Shelf space is easy to adjust. 2 stage spring shelf holds vessels firmly. When shelf box is dismantled, the bath can be used as highly accurate constant temperature bath.



Features

- Anti-bacteria stainless steel bath can be dismantled for cleaning. By detaching one touch coupler, the water bath can be dismantled. The bath can be safely dismantled after water is exhausted from drain.
- The unit is equipped with drain cock and water in the bath can easily be drained after shaking.
- With newly designed shaking mechanism, low noise level (less 55dB) is realized.
- Auto-start and auto-stop function is incorporated as standard. 4 step program function is also provided to realize auto-start with different setting after one sequence shaking.
- Slow-up function prevents water over flooding due to sudden shaking start.
- Water bath material is anti-bacteria stainless steel.

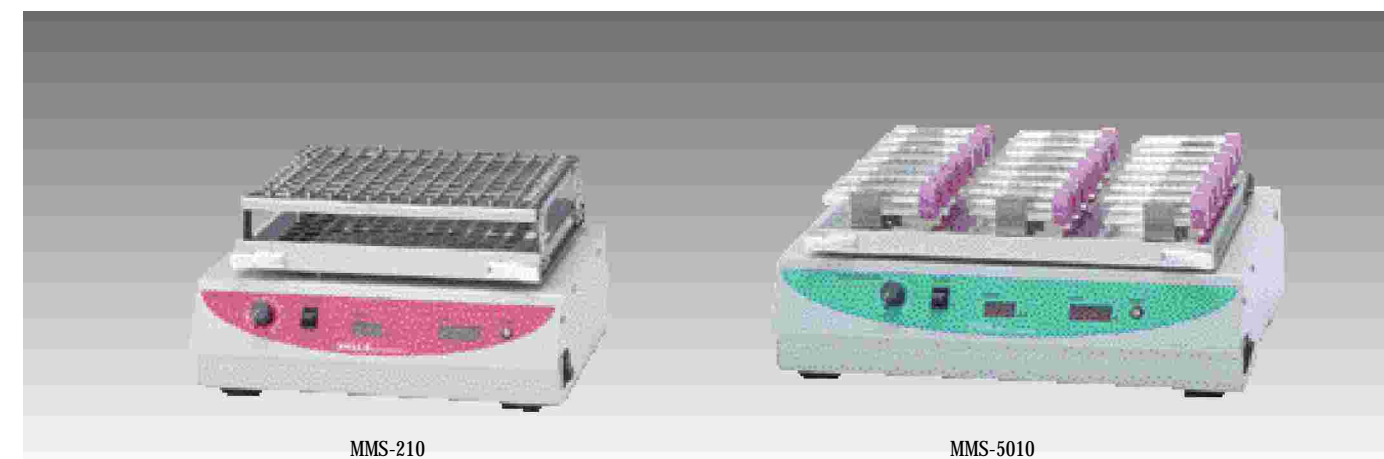
■ Program operation



Specifications

Product name	Water Bath shaker						
	NTS-4000BM			NTS-4000CN			NTS-4000CH
Model	211889	211888	211880	211909	211908	211900	211910
Cat.No.	211889			211909			211910
Temperature range	RT+5°C to 60°C			RT+5°C to 40°C			RT+5°C to 40°C
Shaking method	Reciprocating						
Temp. setting range & accuracy	10~80°C*±0.1°C (at 37°C)						
Shaking speed & Stoke	20~160 strokes/min (Feed back control). 25mm/stroke			20~140 strokes/min (Feed back control). 40mm/stroke			
Temperature Control	Microprocessor P.I.D control. Auto-tuning function						
Temp. setting & Display	Sheet key input. Min. setting scale 0.1°C. Digital setting. Digital display						
Shaker setting & Display	Sheet key input. 0~180 rpm (Min. scale 1 rpm). Digital setting. Digital display						
Timer setting & Display	Sheet key input. 0~99H59Min. (Min. 1 min). Digital setting. Digital display (Integrated timer 1~9999H)						
Program	Auto-start, Auto-stop, Step program						
Safety functions	Self diagnosis (Heater failure, Sensor abnormal, Highest&lowest temp. limiter, Shaking motor abnormal) Empty heating protection by float limit switch, Independent overheat protector (Fixed temp). Over/Leak current circuit breaker, Fuse						
Additional functions	Temp. Offset. Auto-tuning. Alarm buzzer. Power failure detector						
Sensor	Pt 100Ω thermometer						
Heater	700W (SUS316L)			1300W (SUS316L)			
Shaking motor	Induction motor 25W						
Inner bath stirring	Water jet						
Shaking shelf size (mm)	OD 150W*220D			OD 380W*388D			
	ID 210W*259D			ID 360W*359D			
	Spring shelf 2 stages+Bottom plate			Spring shelf 2 stages+Bottom plate (movable)			
Water bath material	Anti bacteria stainless steel						
Water bath dimensions (mm)	168W*368D*140H			398W*528D*215H			
Ambient temperature	5~35°C						
Overall dimensions (mm)	300W*540D*342H			450W*660D*442H			
Weight	22.5kg			36.5kg			
Power source	AC100V 50/60Hz						

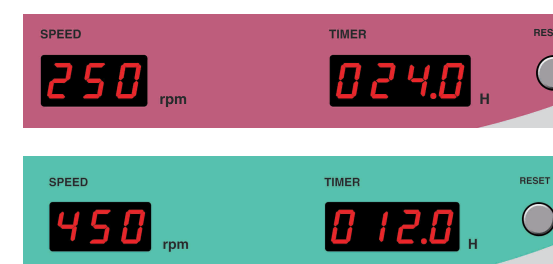
Platform type Multi Shaker MMS-110 · 210 · 3010 · 510 · 5010



MMS-210

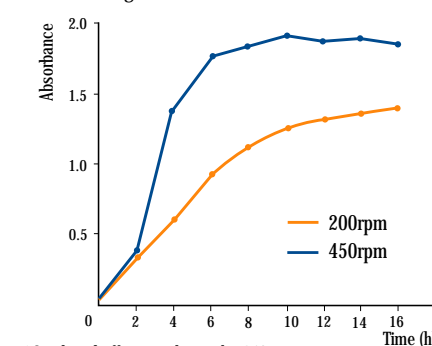
MMS-5010

Operation panel



Data

E.coli culturing



- E.coli: JCM-1649
- Flask: 100mL x 6
- Base: 40mL
- Absorbance: 600nm

*Quick and efficient culturing by 450rpm

Specifications

Product name	Platform type Multi Shaker									
	MMS-110		MMS-210		MMS-310		MMS-3010		MMS-510	MMS-5010
Model	192788	192780	192798	192790	190988	190980	190998	190990	194480	194530
Cat.No.	192788		192798		190988		190998		194480	194530
Shaking method	Reciprocating		Orbit		Reciprocating/Orbit		Orbit		Orbit	
Shaking speed & amplitude	20~250 strokes (rpm)/min*25mm								0~450 strokes/min, by shaking table and holder/25mm	
Shaking speed setting & display	Volume setting. Digital display									
Safety & additional functions	Fuse, Motor over load protector, Shaking integrated time (0.1~999.9h)									
Shaking motor	Brushless DC motor									
Vessel container, shaking table	Option									
Max. load of shaking table	5kg				8kg		2.5~5kg		4.6~8kg	
Ambient temperature	4~50°C									
Overall dimensions (mm)	356W*329(342)D*150H				456W*379(392)D*150H		356W*329(342)D*140H		456W*379(392)D*145H	
Weight	13kg		14kg		18kg		14kg		20kg	
Input power	0.14A, 300A	0.3A, 30VA	0.14A, 300A	0.3A, 30VA	0.14A, 300A	0.3A, 30VA	0.14A, 300A	0.3A, 30VA	0.3A, 30VA	0.3A, 30VA
Power source	AC220V, 50/60Hz		AC100V, 50/60Hz		AC220V, 50/60Hz		AC100V, 50/60Hz		AC100V, 50/60Hz	

*Shaking plates are optional.

Features (MMS-110·210·310·3010)

- Stable shaking from 20 strokes/min to 250 strokes/min.
- Highly efficient air absorption is suitable for pre-culturing of enzyme and culturing of stress cells.
- Reciprocating and orbit shaking are possible(MMS-310,3010). Shaking method selection is by one touch operation of the front panel lever.
- Newly designed shaking mechanism realized low noise level.
- DC brushless motor is used to realize long time continuous shaking.
- Slow up function prevents over-flooding by sudden shaking.
- Integrated shaking time is digitally displayed.
- The unit can be placed inside the constant temp.chamber FMS.FMC series to widen application as constant/low temp. chamber and shaker.

Features (MMS-510·5010)

- Orbital shaking from 20 to 400 strokes/min. 450 strokes by shaking table and holder. The powerful shaking speed enables emulsion.