

# Thermominder SM-05N/SJ-07N/SX-10N/SH-10N/SP-12N

**Five models: Economy, Standard, High Specs, High Temp., and External Circulation. Select the most suitable model according to your purpose. Each Power consumption example is described for each model (See below).**

•Optional Combination Examples --> P.135 •Shaking Water bath "Personal-11 SM Set" --> P.136



**Economy SM-05N** **Standard SJ-07N** **High Specs SX-10N** **High Temp SH-10N** **External Circulation SP-12N**  
With Heat resistant Plastic Hood (sold separately)

## Features

- Comes with a Plastic Water bath, Heat insulation Water bath is available as an option
- Combined with an optional cooler for Low temp. Water bath
- Corresponds to High temp. [SH-10N], External circulation [SP-12N]

## Applications

- Various incubations such as Enzyme reaction
- Temporarily Incubation of Culture medium and Serum
- Circulation to Capillary of Evaporator [SP-12N]

Type	Economy	Standard	High Specifications	High Temperature	External Circulation
Model	<b>SM-05N</b>	<b>SJ-07N</b>	<b>SX-10N</b>	<b>SH-10N</b>	<b>SP-12N</b>
Temperature range (*1)	5°C above RT to +85°C	5°C above RT to +95°C	5°C above RT to +105°C	5°C above RT to +180°C	5°C above RT to +100°C
Settable temp. range (*2)	-20°C to +85°C	-20°C to +95°C	-20°C to +105°C	-20°C to +180°C	-20°C to +100°C
Temp. control accuracy (*3)	±0.1°C~		±0.05°C~	±0.1°C~	
External Circulation volume	-				Max. 6.2 L/min (*4)
Stirring method in Bath	Jet flow (Weak)	Jet flow (Controllable)		Jet flow	Jet flow (Controllable)
Temperature memory	-		1 pc	-	
Timer	Buzzer notification for Preset time, Operation OFF, Temp. memory interlock (= Temp. transition timer, only for SX-10N) Setting range: 1 min to 99 h 59 min (Each model)				
Other functions	Buzzer notification when preset temp. is reached, Automatic tuning, Safety device output (SM-05N is excluded. Alarm out cable AOC-2 is required to output.)				
Min. Water level	55 mm from the bottom of the bath, 80 mm from the bottom of the bath			70% to 80% of Bath water capacity is maintained	
Heater	500 W (Time proportional output variable)	700 W (Time proportional output variable)	1000 W (Time proportional output variable)	1000 W (Time proportional output variable)	1200 W (Time proportional output variable)
Safe devices/ protections	Circuit protector, Fuse, Dry-heating protection with float, Heater protection cover, Sensor error, Short circuit, High/Low temp. sample protection, Water level alarm, Nonvolatile memory error, Automatic tuning error, Alarm setting error				
Power failure	Switchable Automatic/Manual recovery				
Dimensions inside Bath (WxDxH)	130 × 66 × 135 mm			130 × 75 × 137 mm	130 × 85 × 145 mm
Main unit dimensions (WxDxH)	130 × 135 × 304 mm			130 × 165 × 302 mm	130 × 164 × 315 mm
Weight	Approx. 3.4 kg			Approx. 5 kg	
Power supply	AC100V/5.5A (Need a step-down transformer) (*5)	AC100V/7.5A (Need a step-down transformer) (*5)	AC100V/10.5A (Need a step-down transformer) (*5)	AC100V/11A (Need a step-down transformer) (*6)	AC100V/13A (Need a step-down transformer) (*6)
Standard accessories	Microtube Floater × 1 pc, Plastic Water bath C-type × 1 pc (*7)				

(\*1) Max. temp. may not be reached when the optional Hood is not used or depending on the usage conditions. Recommended to use our specified Heat medium for High temp (See page 134) when using tap water at high temp. as dangerous due to the steam. (\*2) Not equipped with a cooling function. Can be used together with our Chiller/Coolnit, Immersion cooler, etc. at below RT (25°C). Use our specified Antifreeze fluid (Heat medium for Low temp. See page 134) when preset temp. is below 7°C. The usage life of the components may be shortened when used at the upper limit temp. (\*3) The value under the conditions of RT (25°C), AC100 V/50 Hz, Capacity 6 liters water, Preset temp. 37°C, and No heat load. For SX-10N, this is an actual measured value (0.01 unit). (\*4) The value varies depending on the inner dia, length of the hose and hydraulic head. (\*5) The reference value when the Stainless steel Thermal insulation Water bath F-type and Optional Hood PF-SDM is used under the condition of \*3. The power consumption increases by approx. 20% to 50% when the Optional Hood is not used. (\*6) The reference value when the Stainless steel Thermal insulation Water bath F-type is used under the condition of \*3. (\*7) As Heat-resistant temp. of Plastic Water bath C-type is 70°C, use the Optional Stainless steel Thermal insulation Water bath.