

Custom Product

# Weather Simulation Chamber



## Reproducing various environmental factors

The environmental conditions required by weather simulation chambers vary depending on the research objective and whether the subjects of research are humans, animals, plants, or industrial products. The ESPEC Weather Simulation Chamber can be used to reproduce one or a combination of weather environmental factors, including temperature, humidity, air pressure, rain, fog, snow, sunlight, wind, and air composition. In addition to normal environments, this system can create the optimal weather environment for the research objective and subject, whether it is scorching desert, a frigid South Pole, underwater, high altitude, or stratosphere environment.

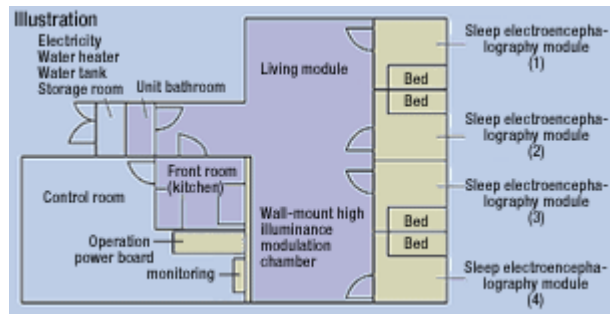


	Normal environment (living environment)	Extreme environment
Temperature	-20 to +45°C	-50 to +50°C
Humidity	30 to 90%RH	5 to 100%RH
Rain	0 to 100mm/h	-
Atmospheric pressure	Atmospheric pressure to pressure equivalent to an altitude of 2000 m	Atmospheric pressure to pressure equivalent to an altitude of 9000 m
Sunlight	0 to 1000kcal/m <sup>2</sup> h	-
Wind	0 to 2.5m/s	-

### Sleep, Wake, and Biorhythm Research and therapy system

The Sleep, Wake, and Biorhythm Research and therapy system performs basic and clinical research on sleep and biorhythm disorders as well as depression and other mood disorders.

- Neurophysiological research on human sleep
- Endocrinological and chronobiological research on human circadian rhythm mechanism
- Measurement of the effects of light on sleep, circadian rhythm, and mood
- Evaluation of the effects of physiological functions of psychotropic drugs
- Behavioral and clinical research using polysomnography
- Simultaneous monitoring of movement disorders and conversion disorders using polygraph and video
- Development of chronobiological treatment of sleep and biorhythm disorders as well as depression and other mood disorders



Living module



Sleep electroencephalography module

Control room

**Specifications**

Performance

Temperature and humidity range	+22°C/60%RH
Temperature and humidity adjustable range span	±1°C/±5%RH
Allowable load	5 people/ventilation of 150 m <sup>3</sup> /h

Shield	40dB (500k to 200MHz)
Sound insulation	D40dB
Illuminance	<ul style="list-style-type: none"> <li>Living module wall-mount high illuminance modulation chamber 10000 to 0LX(manual modulation)</li> <li>Sleep electroencephalography module 30 to 0LX (manual modulation)</li> </ul>
Noise level	55dB (A) At the center of the living module room FL + 1000 mm

#### Construction

Living module	Approx. 10130 (W) × 3175 (D) × 2500 (H) mm, 1 room
Sleep electroencephalography module	Approx. 2420 (W) × 2100 (D) × 2100 (H) mm, 4 rooms
Front room	Approx. 2300 (W) × 2275 (D) × 2100 (H) mm, 1 room
Air conditioner	General-purpose package air conditioner
Operation power board	Material: cold rolled steel plate Installed equipment: temperature and humidity setting device, temperature and humidity recorder, etc.

#### Accessories

Living module	Chamber lamp, unit bathroom, refrigerator, microwave oven, kitchenette, TV antenna terminal, heat sensor, indoor security switch, emergency buzzer
Sleep electroencephalography module	Chamber lamp, TV camera, bed, emergency buzzer, heat sensor, indoor security switch, video monitor, ground terminal, ventilation fan

### Recommended products for customers viewing this product

E Series Walk-In  
Type Temperature  
(& Humidity)  
Chamber

