

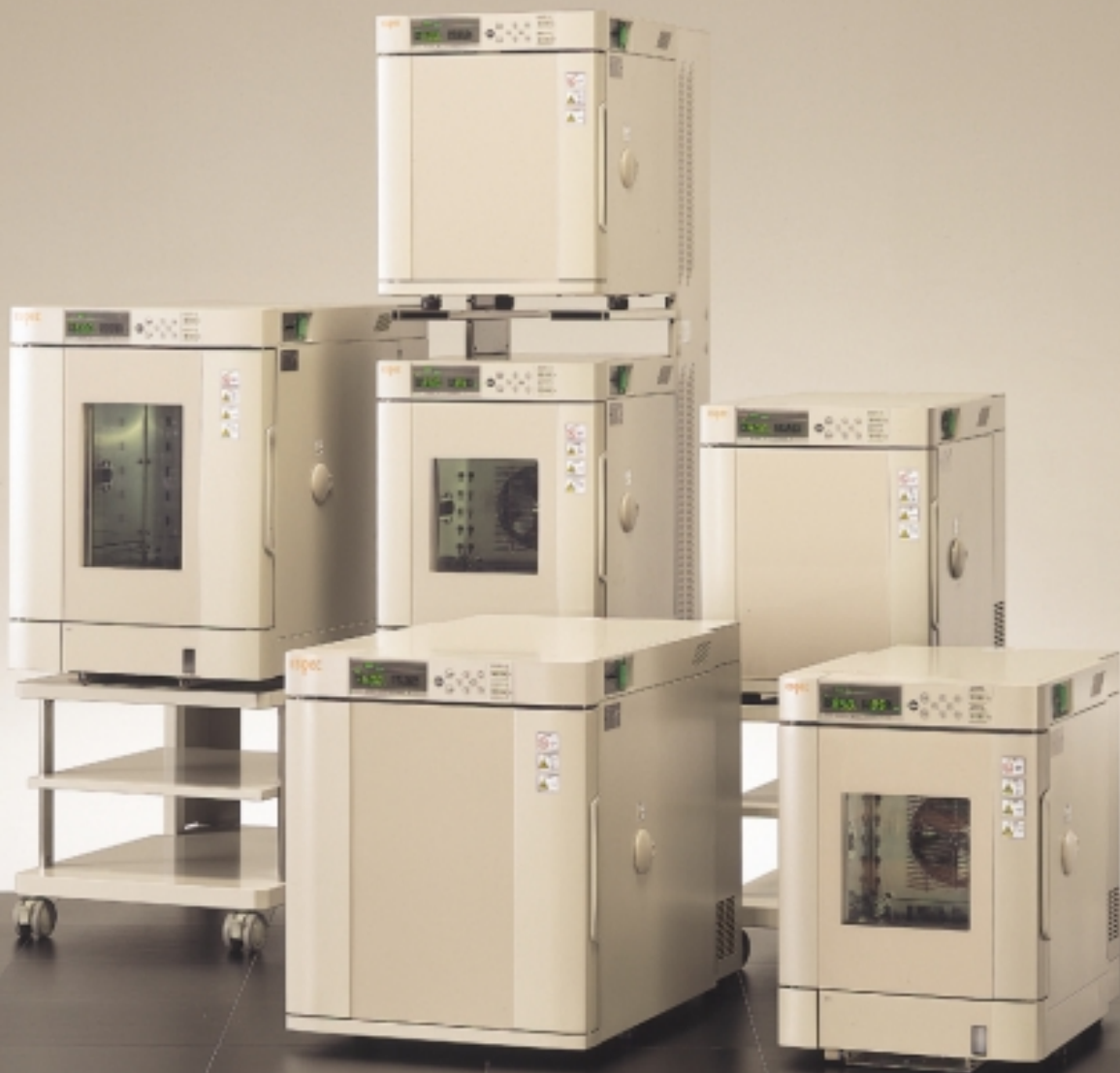


Advanced Test Equipment Corp.
www.atecorp.com 800-404-ATEC (2832)

ESPEC

Bench-Top Type Temperature (& Humidity) Chamber

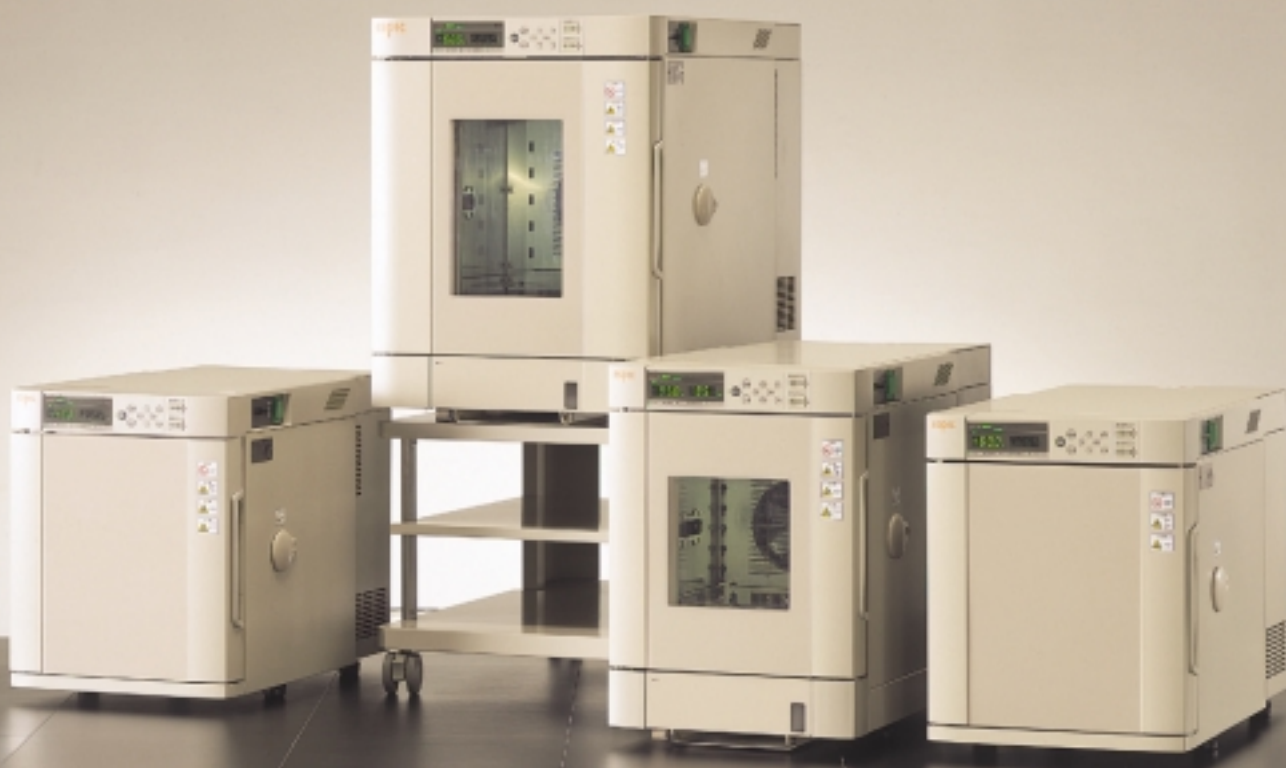
SH-221 • 241 • 261 • 641 • 661
SU-221 • 241 • 261 • 641 • 661

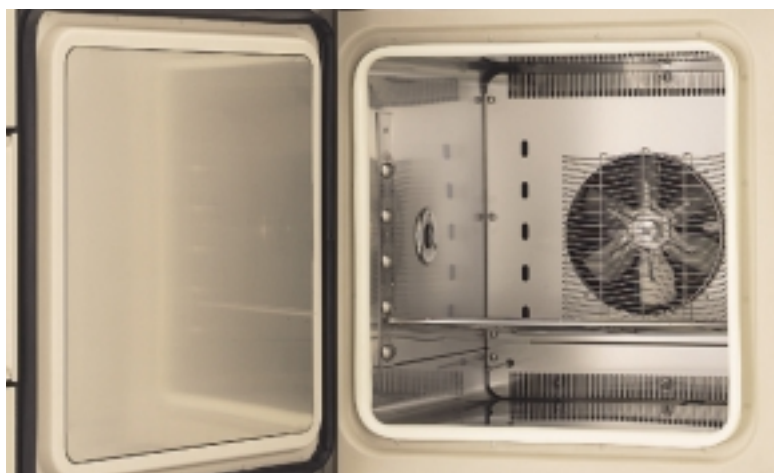


Compact design for personal use Ready to network with your computer.

Introducing a new lineup of our Bench-top Type Temperature (& Humidity) Chamber Series. Our latest models achieve superb performance in a compact size, and attains temperatures as low as -20°C / -40°C / -60°C , with capacity of 20L or 60L. They provide high performance and quality features with new capabilities for integration with our information network system, E-PILOT 21. It is useful for centralized control and data processing, as well as operating chamber control and specimen measurement at the same time. All brought to you by ESPEC.







SU 60L model

● Small size & light weight

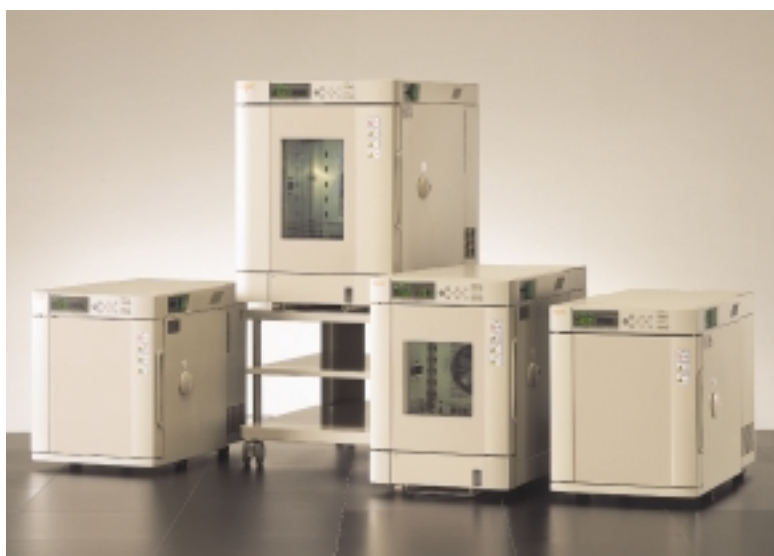
Chamber size is a compact 440W × 560H × 695Dmm (excluding protrusion), while its weight is only 66kg. Ensured the inside test area dimension at 300W × 300H × 250Dmm. (SU-221•241 100VAC model) .

● Compact design with high performance - - - SH-661

The new model SH-661 achieves - 60 to + 150 / 30 to 95%rh in a compact design, and shows outstanding performance than any other previous bench-top models.

● Select your optimum chamber from a full variation

The series provide six variations in temperature (& humidity) range of - 20 / - 40 / - 60 to + 150 (and 30 to 95%rh), and two capacities of 20L or 60L, with a total of 10 models altogether. A wide temperature (& humidity) range is offered in a bench-top model, enabling you to choose the right chamber.



SH-661

User-friendly

- **Newly developed refrigeration system that saves energy consumption up to 55%**

Our exclusive refrigerator capacity variable control system saves up to 55% energy consumption compared to our previous model.

- **Optional stand for space-saving layout**

For use in limited space, we provide an exclusive stand with casters for stacking up to three chambers.

*Be sure to secure the stand onto the floor with earthquake resistant fittings for your safety when using stand.

- **Recycling**

Molded resin and metal parts which can be recycled are clearly marked to make recyclable materials easier to identify during disassembly.

- **Ozone layer protection**

The HFC refrigerant used is completely safe for the ozone layer.

- **Paperless Recording (optional)**

The paperless recorder makes it easy record the temperatures of different components, such as the chamber temperature, on a memory card (Compact Flash).



Cable port plug (Material marked)



Paperless recorder Portable type (optional)

User-friendly



- **Cable ports for running in wires**

Each one 25mm diameter cable port is standard equipped on both sides of the chamber for wiring to the specimen. We also provide 50mm, 100mm diameter port and flat type cable port.

- **Cartridge tank for easy water supply**

Once water is supplied into the tank, continuous operation is maintained for three days. Maintenance can be done easily from the front side. Additional water tank connection is available for further extended operation. (SH model)

- **Right-opening door (optional)**

You may want to change the direction of opening the door to fit the installation space.

- **Viewing window for observation (optional)**

A large window provides a clear view of your specimen during testing.
(215W × 215Hmm for 20L model,
215W × 315Hmm for 60L model)

*The basic specification of the chamber will be modified.



Water supply tank



Right-opening door



Viewing window: 20L model

- **Flexible Computer Interface**

Communication port RS-485 is equipped as standard. You can select RS-232C, GP-IB, and E-BUS communication port as option.

Control operation

● Easy operation with 9 keys

Temperature & humidity setting, timer setting, and upper/lower temperature & humidity limit alarm setting can be done with simple key operation.

● Programming operation of up to 9 steps

In addition to constant setting, programming instrumentation is equipped to allow programmable operation to a maximum of 9 steps per pattern and the rise and fall gradient of temperature (& humidity) to be set to meet the application requirements for temperature characteristic testing and temperature (& humidity) cycle testing. Maximum 99-time repeat function and operational setting function after program execution are just two of the various functions offered.



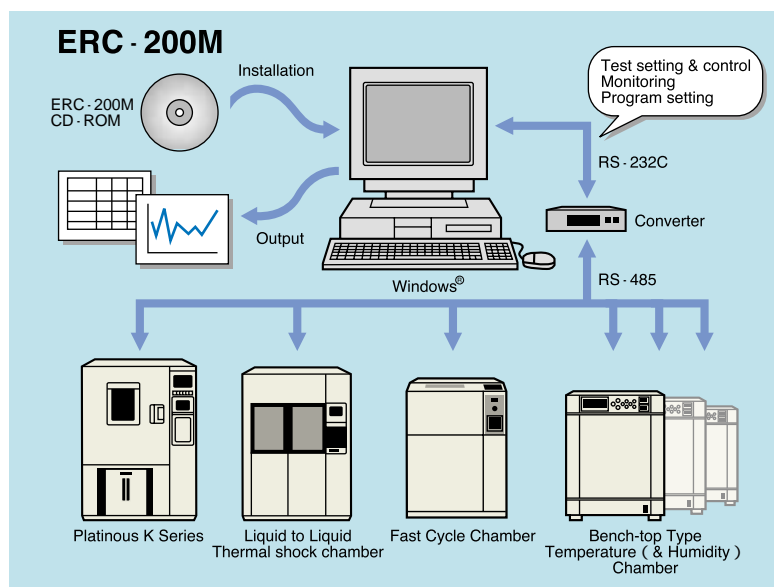
Description of program function

| Program function | Pattern |
|------------------------------|---|
| Step program | |
| Temperature gradient program | |
| Termination program | <div> <div> <p>1.HOLD</p> </div> <div> <p>2.CONST</p> </div> <div> <p>3.OFF</p> </div> </div> |

*1 Sets a program repetition frequency between a range of 1 and 99.

*2 Selects HOLD, CONST or OFF when a program is over.

Network



Communication Network of Environmental Test Chambers

Bench-top type temperature & humidity chamber incorporates the communication port RS-485 as standard to cope with the [E-PILOT 21], which is a newly developed centralized control system. [E-PILOT 21] not only serves as a system for centralized control of environmental chambers, but also establishes an open network including specimen measurement function and remote chamber main-tenance function.

E . PILOT《ERC-100S》

The high-level of functions offered by ERC-200M is included in a non-networked package, meant for a single chamber to be interfaced with your personal computer. The RS-232C communications port option is required, but the software is free.

For one-to-one users

If you are not ready to establish a network of test chambers, this software would be an ideal trial of the capabilities of our ERC-200M package.

Freeware

ERC-100S can be downloaded from our website for free at www.espec.co.jp/english.

E . PILOT《ERC-200M》

Control, monitoring, programming, and datalogging for up to 16 ESPEC chambers can be performed through a single PC. RS-485 from ESPEC chambers connect via a serial bus converter to RS-232C on the PC.

Remote operation

Have full control of test chambers while sitting in your office.

Potential savings

Because the ERC-200M allows program operations to be run directly from the PC, test chambers with less-expensive single-setting controllers can be used.

E-BUS version available

For existing units with E-BUS system, ERC-100M is available.

* The series of application softwares and network systems are provided on a separate basis from the chamber.

E . PILOT《ERC-300M》

Set up an Intranet Web-PILOT site to allow monitoring of up to 16 chambers through one PC (possible with E-BUS communications system). Monitor the settings and operation of your chambers from any PC on the Intranet. Web-based method allows display of chamber information across many computer platform types.

E . PILOT《LabVIEW》

Provides an interlocking system of testing and measuring devices that allows customers currently using LabVIEW to link to ESPEC chambers, opening new horizons for environmental testing. Optional E-BUS or GP-IB (IEEE-488) communications interface is required.

Driver software to connect test chambers are provided for free

Lab VIEW drivers are available to give the basic building blocks for addressing ESPEC equipment. Drivers required for connecting ESPEC products to a personal computer is provided for free. For further information, please contact your nearby ESPEC sales office.

CMS . J30

This is a fully customizable system that provides centralized control, centralized monitoring, remote operation and specimen data management of ESPEC products (up to 32 units of which 16 are dedicated to centralized monitoring) by the use of a PC. (E-BUS compatible)

* Please contact us for further information.

| Model | | SH-221 | SH-241 | SH-261 | SH-641 | SH-661 |
|---|---|---|---|---|---|---|
| Power supply | | 100V AC 1 50/60Hz, 115V AC 1 60Hz 220V AC 1 50/60Hz, 230V AC 1 50Hz 230V AC 1 50Hz (Compliance with CE Marking) | | | 100V AC 1 50/60Hz, 200V AC 1 50/60Hz 220V AC 1 50/60Hz, 230V AC 1 50Hz 230V AC 1 50Hz (Compliance with CE Marking) | |
| Maximum current *1 | 100V | 12.5A | | 13.5A | 18.0A | |
| | 115V | 12.0A | | 13.0A | —— | |
| | 200V | —— | | | 10.0A | |
| | 220V | 7.0A | | 7.5A | 9.0A | |
| | 230V | 6.5A | | 7.0A | 8.5A | |
| Temperature and humidity control system | | Balanced Temperature & Humidity Control system (BTHC system) | | | | |
| Operation temperature | | + 5 to + 35 (+ 41 to + 95°F) | | | | |
| Noise | | At 1m from front of chamber, 1.2m from floor (depending on environment) | | | | |
| | | 55dB | | 59dB | 61dB | |
| Heat exhaust | | 3500kJ/h | | 4000kJ/h | 5040kJ/h | |
| Performance *2 | Temperature range *3 | - 20 to + 150 (- 4 to + 302°F) | - 40 to + 150 (- 40 to + 302°F) | - 60 to + 150 (- 76 to + 302°F) | - 40 to + 150 (- 40 to + 302°F) | - 60 to + 150 (- 76 to + 302°F) |
| | Humidity range *3 | 30 to 95%rh (Refer to diagram of temperature & humidity control range) | | | | |
| | Temperature fluctuation *3 | ±0.3 (- 20 to + 100) [±0.54°F (- 4 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] | ±0.3 (- 40 to + 100) [±0.54°F (- 40 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] | ±0.3 (- 60 to + 100) [±0.54°F (- 76 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] | ±0.3 (- 40 to + 100) [±0.54°F (- 40 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] | ±0.3 (- 60 to + 100) [±0.54°F (- 76 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] |
| | Humidity fluctuation *3 | ±3.0%rh | | | | |
| | Temperature uniformity *3 | ±0.5 (- 20 to + 100) [±0.9°F (- 4 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] | ±0.5 (- 40 to + 100) [±0.9°F (- 40 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] | ±0.5 (- 60 to + 100) [±0.9°F (- 76 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] | ±0.5 (- 40 to + 100) [±0.9°F (- 40 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] | ±0.5 (- 60 to + 100) [±0.9°F (- 76 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] |
| | Humidity uniformity *3 | ±3.0%rh | | | | |
| | Temperature heat-up rate | - 20 to + 150 within 55 min | - 40 to + 150 within 60 min | - 60 to + 150 within 70 min | - 40 to + 150 within 70 min | - 60 to + 150 within 80 min |
| | Temperature pull-down rate | + 20 to - 20 within 20 min | + 20 to - 40 within 50 min | + 20 to - 60 within 70 min | + 20 to - 40 within 60 min | + 20 to - 60 within 90 min |
| | Lowest attainable temperature | - 20 (- 4°F) | - 40 (- 40°F) | - 60 (- 76°F) | - 40 (- 40°F) | - 60 (- 76°F) |
| Construction | Exterior material | Painted steel | | | | |
| | Interior material | 18-8 Cr-Ni stainless steel plate (SUS 304) | | | | |
| | Insulation | Rigid polyurethane foam, Glass wool | | | | |
| | Door | one-panel door (right handle, left hinge) | | | | |
| | Instrumentation panel | Temperature & humidity indicator controller, Overheat protector, Overcool protector | | | | |
| | Heater | Nichrome-stripped wire heater | | | | |
| | | 400W | | | 600W | |
| | Humidifier | 18-12-2.5 Cr-Ni-Mo stainless steel sheathed heater 250W | | | | |
| | Refrigeration system | Mechanical single-stage refrigerator system | | Mechanical cascade condenser refrigeration system | | |
| | Cooler | Plate fin cooler | | | | |
| | Refrigerator | Compressor: Air-cooled hermetically sealed compressor, Condenser: Air-cooled condenser, Expansion mechanism: Capillary tube | | | | |
| | Refrigerator capacity | 400W | | 400W + 400W | | |
| | Refrigerant | R404A | | R404A, R23 | | |
| Fittings | Connecting terminal for temp & humid recorder terminal, Specimen power supply control terminal, External alarm terminal, External output terminal, Cable ports, Power cord/ plug, Drain pipe, Water supply tank, Quick on/ off plug for water drainage, Water level sensor for water supply tank/ drain socket for tank | | | | | |
| Dimensions | Inside dimensions (W×H×D mm/ in) | 300×300×250/ 11.8×11.8×9.8 (excluding protrusions) | | | 400×400×400/ 15.7×15.7×15.7 (excluding protrusions) | |
| | Outside dimensions (W×H×D mm/ in) | 440×630×695/ 17.3×24.8×27.4 (730/ 28.7D when including protrusions) | | 440×630×785/ 17.3×24.8×30.9 (825/ 32.5 when including protrusions) | 540×730×890/ 21.3×28.7×35.0 (930/ 36.6D when including protrusions) | |
| Capacity (L) | | 22.5 | | | 64 | |
| Weight (kg) | | 71 (76 for 115, 220, 230V) | | 100 | 122 | |

*1 At + 23 ambient temperature, value at stable voltage application. For SH-641/ 661, make sure to check the capability of your power equipment in advance.

*2 At + 23 ambient temperature, value at stable voltage application with no specimen. Lowest attainable temperature value at ambient of up to + 30 .

*3 In accordance with Standard for Performance of Humidity Chamber (JTM-K01-1998) of standard of Japan Testing Machinery Association.

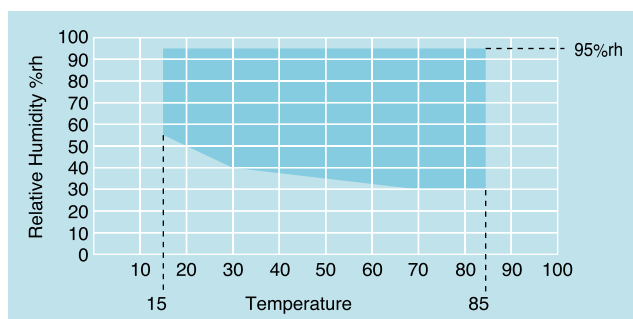
| Model | | SU-221 | SU-241 | SU-261 | SU-641 | SU-661 |
|----------------------------|--|---|---|---|---|---|
| Power supply | | 100V AC 1 220V AC 1 230V AC 1 | 50/60Hz, 115V AC 1 50/60Hz, 230V AC 1 50Hz (Compliance with CE Marking) | 60Hz | 100V AC 1 220V AC 1 230V AC 1 | 50/60Hz, 200V AC 1 50/60Hz, 230V AC 1 50Hz (Compliance with CE Marking) |
| Maximum current *1 | 100V | 10.0A | | 13.5A | 18.0A | |
| | 115V | 9.5A | | 13.0A | ——— | |
| | 200V | ——— | | | 10.0A | |
| | 220V | 6.0A | | 7.5A | 9.0A | |
| | 230V | 5.5A | | 7.0A | 8.5A | |
| Temperature control system | | Balanced Temperature control system (BTC system) | | | | |
| Operation temperature | | + 5 to + 35 (+ 41 to + 95°F) | | | | |
| Noise | | At 1m from front of chamber, 1.2m from floor (depending on environment) | | | | |
| | | 55dB | | 59dB | 61dB | |
| Heat exhaust | | 3500kJ/h | | 4000kJ/h | 5040kJ/h | |
| Performance *2 | Temperature range *3 | - 20 to + 150 (- 4 to + 302°F) | - 40 to + 150 (- 40 to + 302°F) | - 60 to + 150 (- 76 to + 302°F) | - 40 to + 150 (- 40 to + 302°F) | - 60 to + 150 (- 76 to + 302°F) |
| | Temperature fluctuation *3 | ±0.3 (- 20 to + 100) [±0.54°F (- 4 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] | ±0.3 (- 40 to + 100) [±0.54°F (- 40 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] | ±0.3 (- 60 to + 100) [±0.54°F (- 76 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] | ±0.3 (- 40 to + 100) [±0.54°F (- 40 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] | ±0.3 (- 60 to + 100) [±0.54°F (- 76 to + 212°F)] ±0.5 (+ 100.1 to + 150) [±0.9°F (+ 212.1 to + 302°F)] |
| | Temperature uniformity *3 | ±0.5 (- 20 to + 100) [±0.9°F (- 4 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] | ±0.5 (- 40 to + 100) [±0.9°F (- 40 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] | ±0.5 (- 60 to + 100) [±0.9°F (- 76 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] | ±0.5 (- 40 to + 100) [±0.9°F (- 40 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] | ±0.5 (- 60 to + 100) [±0.9°F (- 76 to + 212°F)] ±0.8 (+ 100.1 to + 150) [±1.44°F (+ 212.1 to + 302°F)] |
| | Temperature heat-up rate | - 20 to + 150 within 55 min | - 40 to + 150 within 60 min | - 60 to + 150 within 70 min | - 40 to + 150 within 70 min | - 60 to + 150 within 80 min |
| | Temperature pull-down rate | + 20 to - 20 within 20 min | + 20 to - 40 within 50 min | + 20 to - 60 within 70 min | + 20 to - 40 within 60 min | + 20 to - 60 within 90 min |
| | Lowest attainable temperature | - 20 (- 4°F) | - 40 (- 40°F) | - 60 (- 76°F) | - 40 (- 40°F) | - 60 (- 76°F) |
| | Construction | Exterior material | Painted steel | | | |
| Interior material | | 18-8 Cr-Ni stainless steel plate (SUS 304) | | | | |
| Insulation | | Rigid polyurethane foam, Glass wool | | | | |
| Door | | one-panel door (right handle, left hinge) | | | | |
| Instrumentation panel | | Temperature indicator controller, Overheat protector, Overcool protector | | | | |
| Heater | | Nichrome-stripped wire heater | | | | 600W |
| | | 400W | | | | |
| Refrigeration system | | Mechanical single-stage refrigerator system | | Mechanical cascade condenser refrigeration system | | |
| Cooler | | Plate fin cooler | | | | |
| Refrigerator | | Compressor: Air-cooled hermetically sealed compressor, Condenser: Air-cooled condenser, Expansion mechanism: Capillary tube | | | | |
| Refrigerator capacity | | 400W | | 400W + 400W | | |
| Refrigerant | | R404A | | R404A, R23 | | |
| Fittings | Connecting terminal for temp recorder terminal, Specimen power supply control terminal External alarm terminal, External output terminal, Cable ports, Power cord/ plug, Drain pipe | | | | | |
| Dimensions | Inside dimensions (W×H×D mm/ in) | 300×300×250/ 11.8×11.8×9.8 (excluding protrusions) | | | 400×400×400/ 15.7×15.7×15.7 (excluding protrusions) | |
| | Outside dimensions (W×H×D mm/ in) | 440×560×695/ 17.3×22.0×27.4 (730/ 28.7D when including protrusions) | | 440×560×785/ 17.3×22.0×30.9 (825/ 32.5 when including protrusions) | 540×660×890/ 21.3×26.0×35.0 (930/ 36.6D when including protrusions) | |
| Capacity (L) | | 22.5 | | | 64 | |
| Weight (kg) | | 66 (71 for 115, 220, 230V) | | 95 | 115 | |

*1 At + 23 ambient temperature, value at stable voltage application. For SU-641/ 661, make sure to check the capability of your power equipment in advance.

*2 At + 23 ambient temperature, value at stable voltage application with no specimen. Lowest attainable temperature value at ambient of up to + 30 .

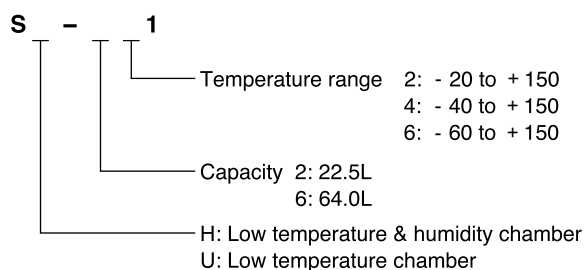
*3 In accordance with Standard for Performance of Humidity Chamber (JTM-K01-1998) of standard of Japan Testing Machinery Association.

TEMPERATURE & HUMIDITY CONTROL RANGE (SH type only)



At +23 anbebt temperature.

MODEL



TEMPERATURE (& HUMIDITY) PROGRAM INDICATOR CONTROLLER

| Model | ES-102 |
|-----------------------------------|--|
| Operation mode | Program operation, Constant operation |
| Display | 7-segment LED display |
| Setting | Mechanical key input |
| Program capacity | 9 steps/ 1 pattern (1 to 99 repetitions) |
| Setting and indication ranges | Temp : - 25 to + 155 (SH-221, SU-221) : - 45 to + 155 (SH-241•641, SU-241•641) : - 65 to + 155 (SH-261•661, SU-261•661) Humid : 0 to 100 %rh (SH only) Tim : 0 to 99 hours 59 minutes, 100 to 999 hours |
| Setting and indication resolution | Temp : 0.1 Humid : 1%rh (SH only) Time : 1 minute (in one hour unit for over 100 hours) |
| Indication accuracy * | Temp : 0.5 (Typ.) Humid : $\pm 2\%$ rh (Typ.) (SH only) Time : within 30 sec. per month |
| Input | Thermocouple type T (Copper/ Copper-Nickel) |
| Control | PID control |
| Communication function | RS-485 |
| Auxiliary functions | Input burn-out detection function Upper and lower temperature (& humidity) limit alarm function Self-diagnostic function (watchdog timer) Alarm indication function Power failure protection function Timer function (automatic start/stop) Refrigerator capacity automatic control function |
| Battery | Lithium battery, 1 |

* At +23 ± 5 ambient temperature

SAFETY DEVICES

Leakage breaker for power supply
 Thermal fuse
 Boil dry protector (SH only)
 Short circuit protection fuse for control circuit
 Overheat protector
 Overcool protector
 Air circulator temperature switch
 Specimen power supply control terminals
 Refrigerator overload relay
 Inside chamber door switch
 Upper and lower temperature & humidity limit alarms
 (built inside temperature & humidity controller)
 Burn-out detection function
 (built inside temperature & humidity controller)
 Watchdog timer
 (built inside temperature & humidity controller)
 Refrigerator automatic delay circuit
 (built inside temperature & humidity controller)

SHELVES

Load capacity (uniformly distributed load)
 SH/ SU-221, 241, 261 500g
 SH/ SU-641, 661 5kg
 Number of shelves
 SH/ SU-221, 241, 261 5 (Shelf pitch 35mm)
 SH/ SU-641, 661 5 (Shelf pitch 50mm)

ACCESSORIES

Shelf 1
 Connector
 2P for connecting terminal for temp & humid recorder 2 (1 for SU)
 6P for connecting signal terminal 1
 Rubber plug for cable port 2
 Glass tube fuse 1
 Adaptor for socket 1 (100V AC, 115V AC only)
 (for SH/ SU-221, 241, 261)
 Wet-bulb wick 1 box (SH only)
 Humidifying tray drain hose 2m 1 (SH only)
 Water level sensor tank drain hose 0.3m 1 (SH only)
 Instruction manual 1
 Warranty 1



DANGER

Do not use specimens which are explosive or inflammable, or which contain such substances. To do so could be hazardous, as this may lead to fire or explosion.

Do not place corrosive materials in the chamber. If corrosive substances or humidifying water is used, the life of the unit may be significantly shortened.

Do not place life forms or substances that exceed allowable heat generation.



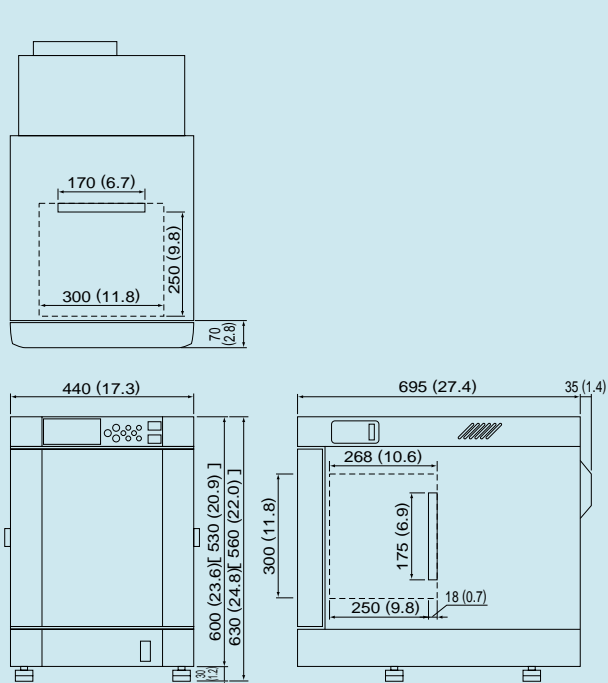
CAUTION

Be sure to read the instruction manual before operation.

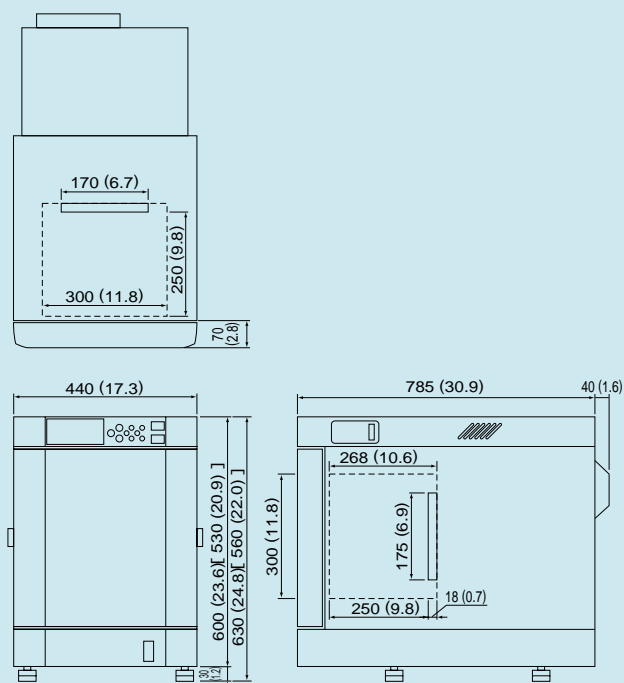
DIMENSIONS

unit : mm (inch)

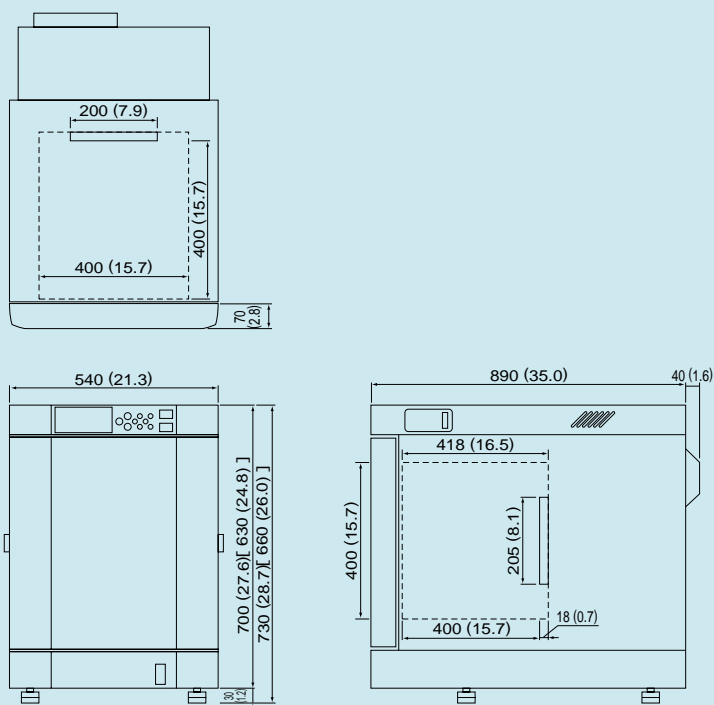
SH·SU·221·241



SH·SU·261



SH·SU·641·661



*The outside dimensions of SU are indicated in [].

OPTIONS

Paperless recorder

Records temperature inside the chamber. Additional inputs may also be recorded

[Temperature type]

Temperature range: - 100 ~ + 200

Number of inputs:

Temperature 1 (5 more but turned OFF*)

Data saving cycle: 5 sec

External recording media:

CF memory card (32MB)

* Settings may be modified.

[Temperature and humidity type]

Temperature range: - 50 ~ + 150

- 100 ~ + 150

Humidity range: 0~100%rh

Number of inputs:

Temperature 1 / Humidity 1

(4 more but turned OFF*)

Data saving cycle: 5 sec

External recording media:

CF memory cord (32MB)

* Settings may be modified.



Paperless recorder Portable type

Temperature recorder

SRJ25 • - 100 to + 200

• 100mm

• Portable type

• 6 dots

(Thermocouple type T
(Copper/ Copper-Nickel))

• Digital

• Free power supply

(100VAC to 240VAC)

Temperature & humidity recorder

SRJ14 • - 100 to + 150 /
0 to 100%rh (for SH)

SRJ12 • - 50 to + 150 /
0 to 100%rh (for SH)

• 100mm

• Portable type

• 6 dots

(Temperature: 5 dots

thermocouple type T

(Copper/ Copper-Nickel)

Humidity: 1 dot

DC1 to 5V

• Digital

• Free power supply

(100VAC to 240VAC)



Wet-bulb temperature detecting terminal

Detects wet-bulb temperature inside the chamber. Equal electromotive force as Thermocouple type T (Copper/ Copper-Nickel).

Equipped with connector.

*Not available for SU

Thermocouple

Measures the temperature of specimens

• T (Copper/ Copper-Nickel)

• 2, 4, 6m

Viewing window

A window is installed on chamber door.

SH · 221 · 241 · 261 W215 × H215mm

SU · 221 · 241 · 261 W215 × H215mm

SH · 641 · 661 W215 × H315mm

SU · 641 · 661 W215 × H315mm

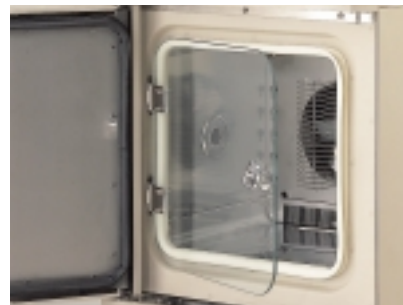
*The basic specification of the chamber will be modified.



Inner door

A glass door is provided inside the chamber door for observation.

* A wiper is equipped for the SH model.



SU model

Right-opening door

Door can be exchanged to a right hinged door.

*Not available with inner glass door option.



OPTIONS

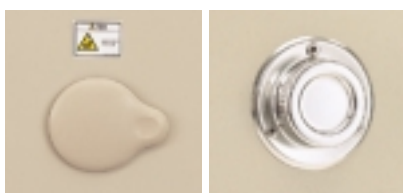
Cable port

Additional cable ports are provided on the wall of chamber.

- 25, 50, 100mm diameter
- Flat cable port

*One silicon sponge rubber port plug is equipped per one cable port.

* Basic specification of the chamber may not be effective when equipped with a cable port.



25mm diameter type 50, 100mm diameter type



flat type

Cable port rubber plug

The additional silicon sponge rubber port plug .

Shelf

Auxiliary shelves on request.

SH/ SU-221•241•261

- Effective size 200W × 150Dmm
- Load capacity (uniformly distributed load) 500g

SH/ SU-641•661

- Effective size 300W × 300Dmm
- Load capacity (uniformly distributed load) 5kg

Specimen basket

- Size 206W × 40H × 156D mm
- Material 18-8 Cr-Ni stainless steel, 5 mesh metal basket



Stand

This stand enhances mobility of the chamber and ease the work to load/unload the specimen. Stand for stacking two or three chambers save installation space.

* Be sure to secure the stand onto the floor with earthquake resistant fittings for your safety especially when using stand for two/ three chambers.



for one chamber



for stacking two chambers



for stacking three chambers

*Stand for three chambers is designated only for SH-221, 241, SU-221, 241.

Auxiliary water tank circuit (for SH)

Automatic water supply circuit is equipped to replenish the standard tank from the auxiliary water tank.

- Supply water quality pure water (electrical conductivity 0.1~10 μ S/cm)
- Water supply pressure 4.9~19.6KPa (Gauge)

Auxiliary water tank (for SH)

Auxiliary tanks are provided to replenish water to the standard tank.

Tray for auxiliary water tank (for SH)

Protects water from leaking while supplying water from the auxiliary water tank.

Drain tank (for SH)

Storage tank for drain water with a full indication buzzer.

Communication functions

Computer interface

- GPIB
- RS-232C
- E-BUS

*Select one other than standard RS-485.

Communication cable

- RS-485 5, 10m
- GPIB 2, 4m
- RS-232C 1.5, 3, 5m
- E-BUS 1.5, 3, 5m for extension
- E-BUS 5, 10m

ESPEC CORP. <http://www.espec.co.jp/english>

Head Office

3-5-6, Tenjinbashi, Kita-ku, Osaka 530-8550, Japan

Tel: 81-6-6358-4741 Fax: 81-6-6358-5500

Europe Branch

Tel: 49-0-89-30765661 Fax: 49-0-89-30767573

ESPEC NORTH AMERICA, INC.

Tel: 1-616-896-6100 Fax: 1-616-896-6150

ESPEC EVALUATION & TEST SYSTEMS, INC.

Tel: 1-408-433-2295 Fax: 1-408-433-2296

ESPEC ENVIRONMENTAL EQUIPMENT (SHANGHAI) CO., LTD.

Head Office

Tel: 86-21-58303322 Fax: 86-21-58661781

BEIJING Rep. Office

Tel: 86-10-64627025 Fax: 86-10-64627036

GUANGZHOU Rep. Office

Tel: 86-20-83317826 Fax: 86-20-83317825

SHENZHEN Rep. Office

Tel: 86-755-83674422 Fax: 86-755-83674228

SUZHOU Rep. Office

Tel: 86-512-68664007 Fax: 86-512-68601994

WUXI Rep. Office

Tel: 86-510-2735036 Fax: 86-510-2735039

ESPEC TEST TECHNOLOGY (SHANGHAI) CO., LTD.

Tel: 86-21-68798008 Fax: 86-21-68798088

ESPEC (MALAYSIA) SDN. BHD.

Tel: 60-3-89451377 Fax: 60-3-89451287



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R001



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RE 009



ISO 9001/JIS Q 9001

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