Quality is more than a word

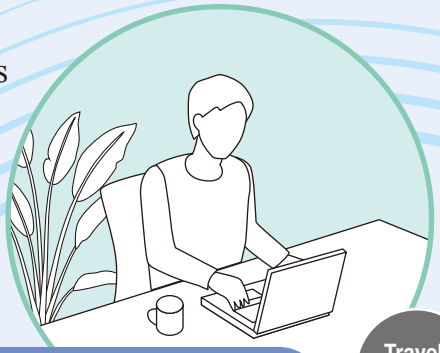
ESPEC

ESPEC ONLINE SERIES

CAT.NO.E14181-T2105

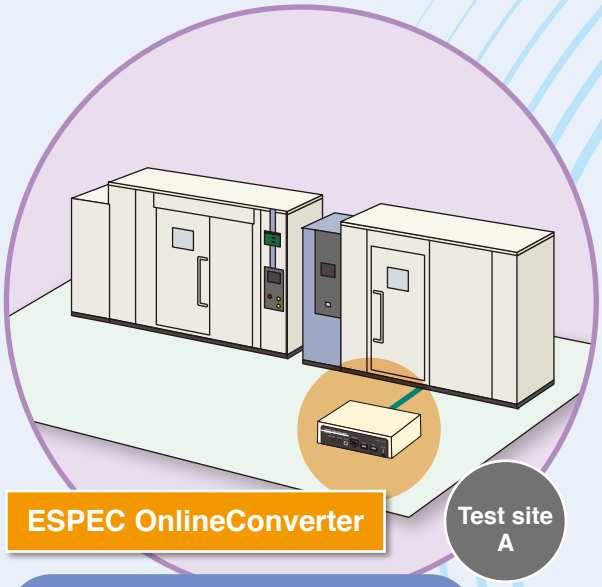
Online Operations Expanding the Possibilities for Environmental Testing

Together with environmental test chambers,
ESPEC also provides network-based remote management and central control systems.
These allow the user to also check the operating conditions from a remote office or home, assisting with test management during remote working.



It is now possible to check the chamber operating conditions and edit programs even while travelling on business.

Travel destination



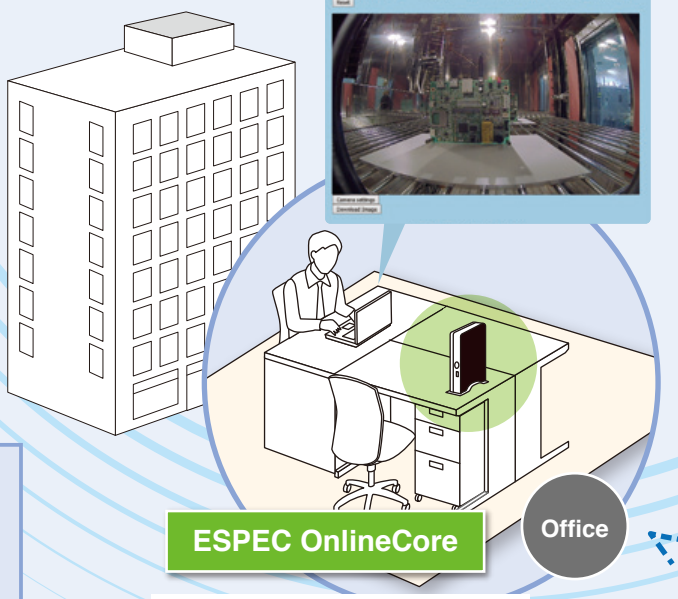
ESPEC OnlineConverter

Test site A

Chambers can be remotely operated using a web browser even when the chamber does not support network connections.

Check the operating conditions and the samples in the test areas* of multiple chambers from a remote location.

* A separate Chamber Cam is required.



ESPEC OnlineCore

Office

Easy installation! Chamber Cam

▶Details: P.11

See here for details.

Video explanation of the ESPEC OnlineCore central control system

RS-485 LAN converter

ESPEC OnlineConverter

Adding network functions on network inapplicable ESPEC chambers

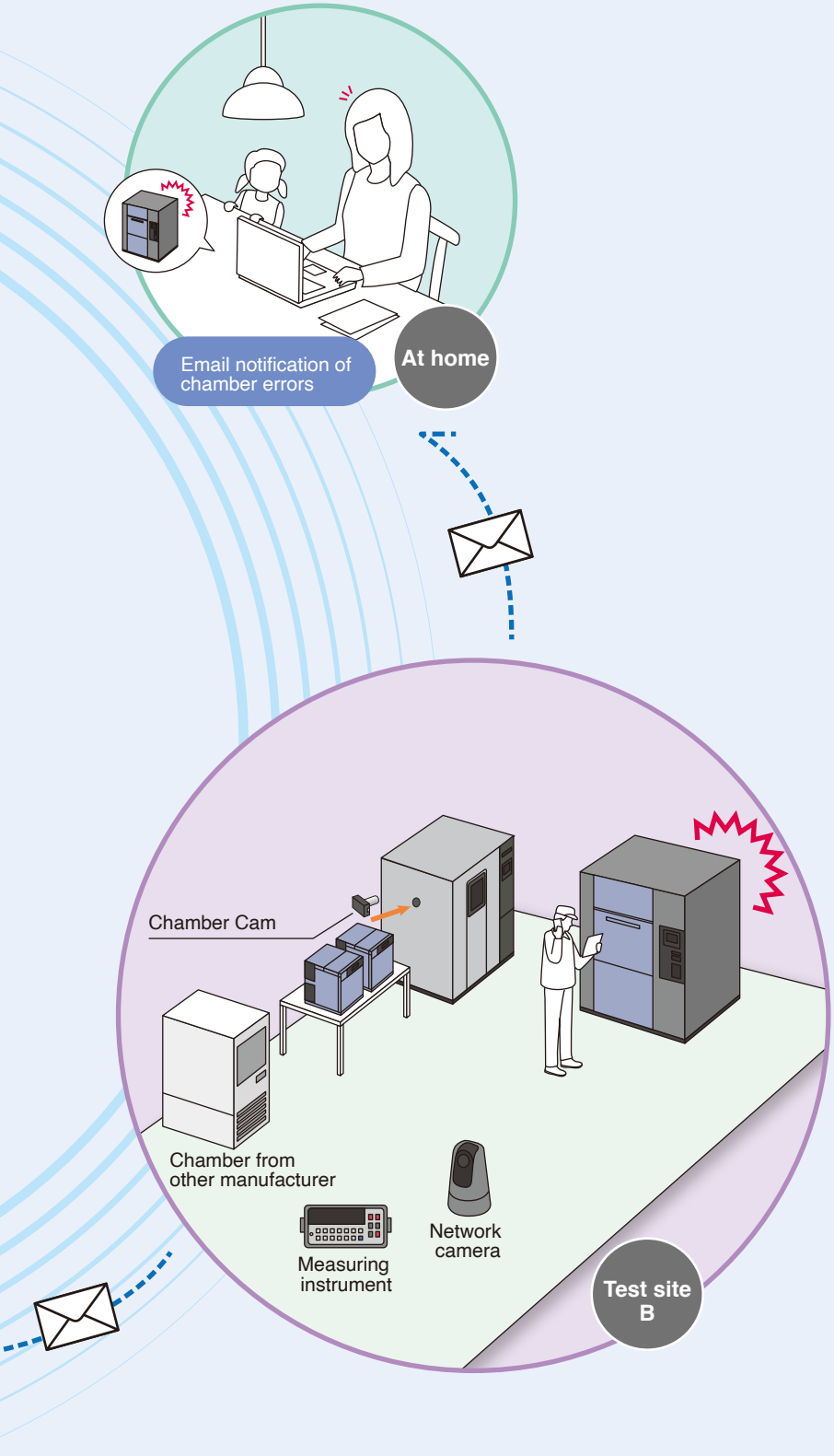
P.3 to 4

Central control system

ESPEC OnlineCore

Centralized management of environmental test chambers and peripheral equipment

P.5 to 11

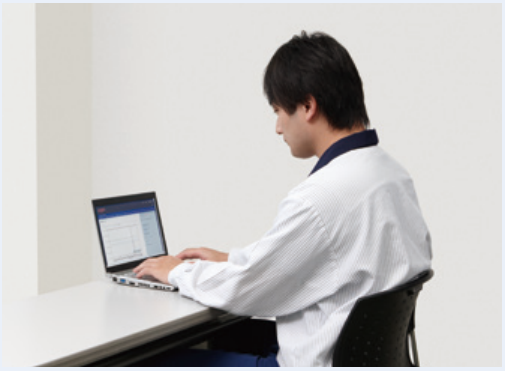


* Illustrations are for purposes of explanation only.

Environmental Test Chamber Web Functions

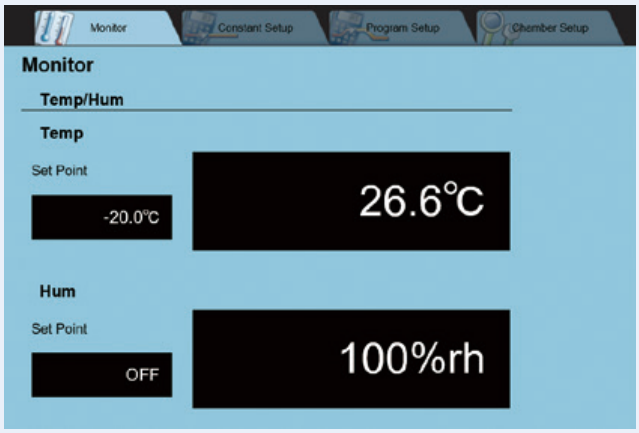
Online management through web browser

Environmental test chambers that include a web application can be operated remotely from a web browser.



Image

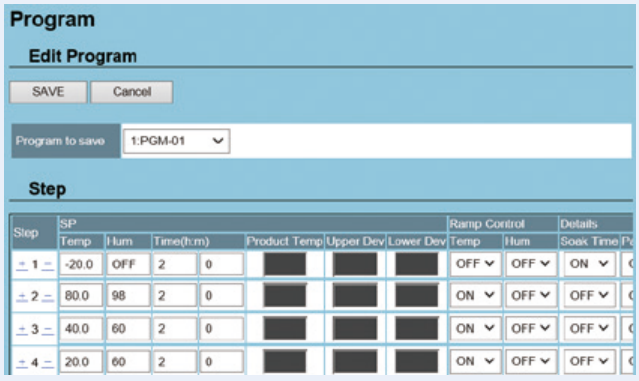
Monitor the chamber operating conditions



Chamber monitor

Edit the test conditions and turn operation ON/OFF

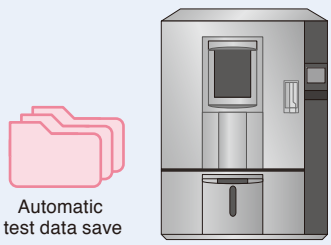
Program patterns can be saved to a PC and copied to other chambers.



Editing of program patterns

Automatic data save

Temperature and humidity data from a set period of time is saved at the test chamber.
From a web browser, the user can download the test data for the desired period and display it in a graph.



Automatic
test data save

* The data save period varies depending on the chamber and data collection cycle.
* Viewing data requires the Pattern Manager Lite PC application.

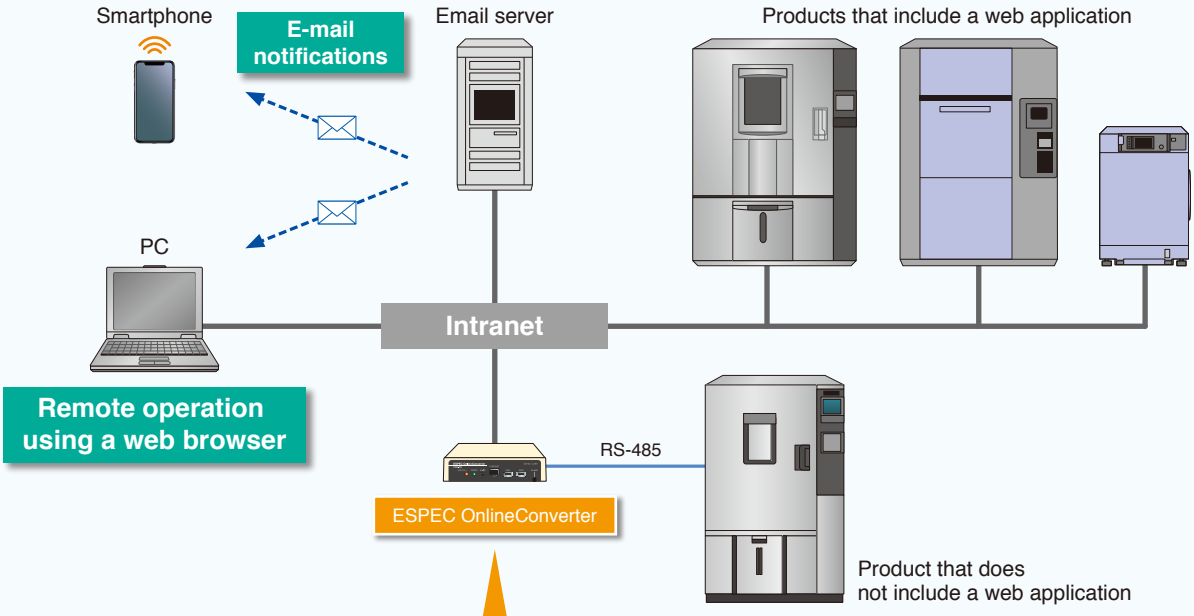
E-mail notifications

Email is sent to the registered address to notify the user when an alarm occurred at a chamber.
By identifying chamber trouble as early as possible, it is possible to prevent damage to the test specimen and readjust the testing schedule.

Alarm email

* An Intranet environment is required.

■ Image of connections



RS-485 LAN converter

ESPEC OnlineConverter

By connecting an ESPEC OnlineConverter LAN converter to the RS-485 communication port of a chamber that does not include a web application, it becomes possible to monitor the operating conditions, edit the test conditions, operate the chamber, and save the data from a web browser.

PN5-CN

■ Applicable models for ESPEC OnlineConverter

Product name	Model
Temperature (& Humidity) Chamber Platinous K Series	PR, PL, PSL, PDR, PDL, PCR, PWL, PU, PG, PWU
Walk-In Temperature (& Humidity) Chamber H Series (P Instrumentation)	TBE, TBL, TBR, TBF, TBU, TBUU, EBE, EBL, EBR, EBF, EBU, EBUU
Free Access Environmental Chamber	PFL, PFU
Environmental Stress Chamber ARseries (P Instrumentation)	ARG, ARL, ARS, ARU
Platinous Vibro Series	PVL, PVS, PVU, PVG
Bench-top Type Temperature (& Humidity) Chamber	SH / SU-□□1
Constant Climate Cabinet	LH / LHL / LHU / LU-□□3
Compact Ultra Low Temperature Chamber (P Instrumentation)	MC-711P, 811P
Faster Temperature (& Humidity) Chamber	SMG, SML, SMS, SMU-2
Rapid-Rate Thermal Cycle Chamber	TCC-150W
Highly Accelerated Stress Test System	EHS-□□1(M) (MD)

Product name	Model
Thermal Shock Chamber TSA Series	TSA-□□1, □□2
Thermal Shock Chamber	TSD-100
Compact Thermal Shock Chamber	TSE-11-A
Liquid to Liquid Thermal Shock Chamber	TSB-21, 51
Temperature Chamber Series	PV(H)-212, 222, 232, 332 STPH-102, 202 SPH(H)-102, 202, 302, 402 IPH(H)-202 PH(H)-102, 202, 302, 402 SSPH-102, 202 GPH(H)-102, 202
Large Volume Temperature Chamber	(H)LKS-3C, 4C
Clean Oven	PV(H)C-212, 232, 332 PVHC-232MS, 332MS

Depending on the year of manufacture and customer requests, chambers may be equipped with a terminal other than RS-485. Therefore be sure to check the actual chamber. A connection is not possible if the RS-485 terminal is already in use.

Central control system

ESPEC OnlineCore

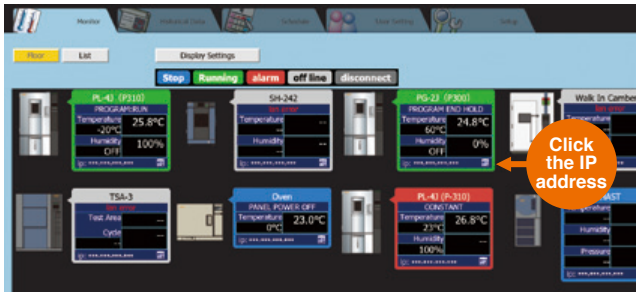
PCS-ES

Centralized management of environmental test chamber peripheral equipment

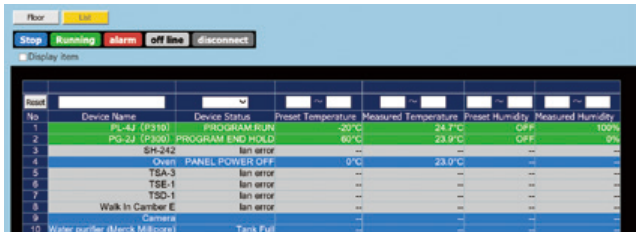
The operating status of multiple chambers can be quickly ascertained via a web browser just by connecting to an Intranet environment.
Can also be used in a closed network.

Central management monitor

- Up to 100 environmental test chambers and peripheral equipment units can be connected.
- The operation state, measured values, and other data from the connected equipment can be checked.
- The layout, display format, sizes, and other characteristics of the connected equipment on the monitor can be changed.
- Change between a floor display and list display.
- Open chamber webpages (by clicking their IP addresses).



Floor display



List display

Schedule management

- Manage the schedules of registered chambers.
- Display the schedules of specified chambers.
- Send email notifications at the start/end of schedules.
- Open chamber webpages from the schedule screen (by clicking the icons).

Schedule management screen

Centralized management of test chambers and peripheral equipment from different manufacturers

- Environmental test chambers, measuring instruments, network cameras, and other equipment from different manufacturers can also be connected.

  * Please contact us regarding the products that can be connected.

■ Products where ESPEC OnlineCore can be used

Product name	Model
Temperature (& Humidity) Chamber Platinous J Series	PR, PL, PU, PSL, PG, PHP, PDR, PDL, PCR
Walk-In Temperature (& Humidity) Chamber E Series	TBE, TBL, TBR, TBF, TBU, TBUU, EBE, EBL, EBR, EBF, EBU, EBUU
High-Power Temperature (& Humidity) Chamber (N Instrumentation)	ARG, ARL, ARS, ARU, ARSF, ARGF
Bench-top Type Temperature (& Humidity) Chamber	SH/SU-□□2
Constant Climate Cabinet	LH / LHL / LHU / LU-□□4
Compact Ultra Low Temperature Chamber	MC-712, 812
Faster Temperature (& Humidity) Chamber	SMG, SML, SMS, SMU-21
Rapid-Rate Thermal Cycle Chamber	TCC-151
Highly Accelerated Stress Test System	EHS-□□2(M)(MD)
Stability Test Chamber	CSH-□□2(HG)

Product name	Model
Stability Test Chamber	CWH
Low Temperature (& Humidity) Chamber	CRH-□□2
Thermal Shock Chamber TSA Series	TSA-□□3
Thermal Shock Chamber	TSD-101-W
Compact Thermal Shock Chamber	TSE-12-A
Liquid to Liquid Thermal Shock Chamber	TSB-22, 52
Vacuum Oven	LCV-234, 244
Web Manager	WMA-STD, WMA-TS, WMA-Multi
RS-485 LAN Converter	CONV-L4
Web Support	PN5-L4
ESPEC OnlineConverter	PN5-CN

Central control system
ESPEC OnlineCore

PCS-ES

ESPEC OnlineCore has standard and optional functions.

ESPEC OnlineCore — Standard function

+

Optional

Test maneagement advanced package — Standard function / Test maneagement advanced package

All-in-one package for everything from test data collection to report creation

+

Optional

Maintenance Management Package — Standard function / Test maneagement advanced package / Maintenance management

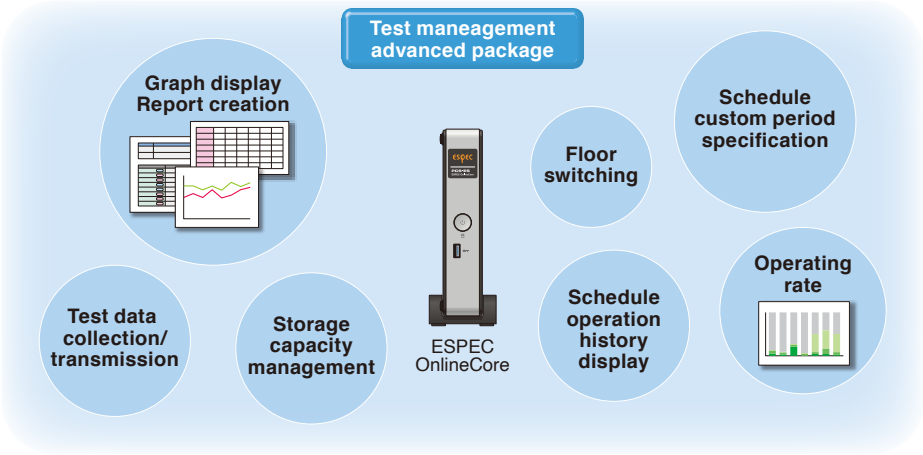
Maintenance management added to the test management package for full functionality

* The Test maneagement advanced package is required to use the Maintenance Management Package.

■ ESPEC OnlineCore function list

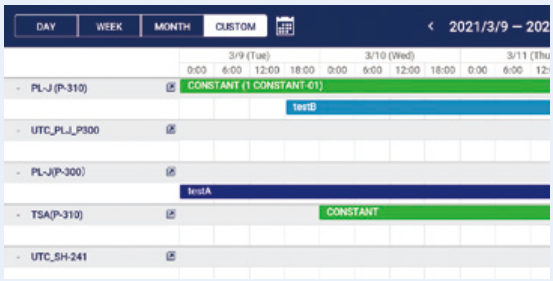
Function		Description	Standard function	Test maneagement advanced package	Maintenance management
Central monitor	Floor display	Monitors the operation states, settings, and measured values of up to 100 chambers. The chamber layout can be changed.	✓	✓	✓
	List display	Changes the monitor screen to a list.	✓	✓	✓
	Floor switching	Switches the floor screen to 1 of 10 created floors.		✓	✓
Chamber history	Operation history	Saves the start/stop history of chamber operation.	✓	✓	✓
	Sampling data	Displays graphs, creates reports, and outputs CSV files.		✓	✓
	Operating rate	Automatically calculates this rate for each chamber.		✓	✓
Schedule	Test planning	Receives entered schedules.	✓	✓	✓
	Operation history display	Shows the operation results on the schedule.		✓	✓
	Display switching	Selects the display mode from day, week, and month.	✓	✓	✓
	Custom period specification	Sets the custom schedule to display.		✓	✓
	Start/stop notification	Sends a notification email at the set date and time.	✓	✓	✓
Maintenance management	Chamber information	Displays the chamber management information and specifications, saves the user's manual and similar documents as PDFs, displays the maintenance plans, and aggregates data to save.			✓
	Maintenance plans	Manages the schedules of maintenance work such as diagnosis, repair, inspection, and calibration.			✓
	Maintenance data aggregation	Aggregates the chamber's maintenance costs and maintenance operation count from its operating rate and registered maintenance plan.			✓
User settings		Sets the user rights and password.	✓	✓	✓
System settings	Sampling data collection	Sets the chamber's sampling data collection.		✓	✓
	Sampling data transmission	Transmits (backs up) the chamber sampling data collected with ESPEC OnlineCore.		✓	✓
	Maintenance management data transmission	Saves the maintenance management file and transmits (backs up) the data.			✓
	Backup management	Backs up the information registered with ESPEC OnlineCore.	✓	✓	✓
	Storage capacity management	Displays the ESPEC OnlineCore memory information.		✓	✓

<Test maneagement advanced package>
All-in-one package for everything from test data collection to report creation



Test planning and progress management

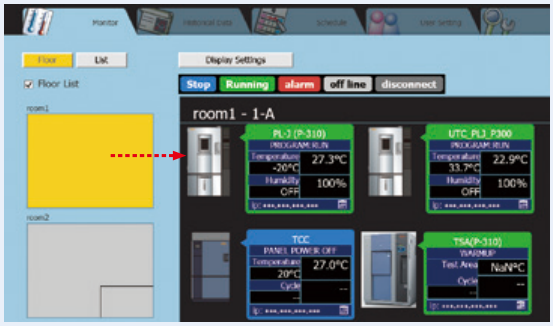
- The operation history display visualizes the test progress and shows the operation state, start date and time, estimated end date and time, and graph.



Schedule progress screen

Monitor display for each group

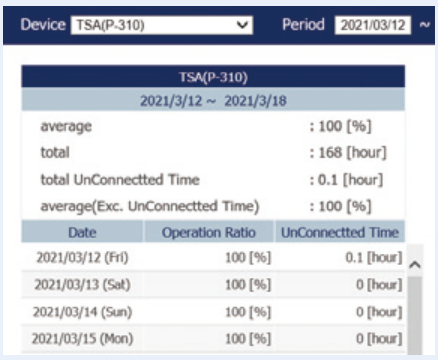
- Connected equipment can be grouped as needed, according to individual floors, rooms, or other units.
- Up to 10 groups can be registered.



Display of the selected floor

Automatic aggregation of chamber operating rate

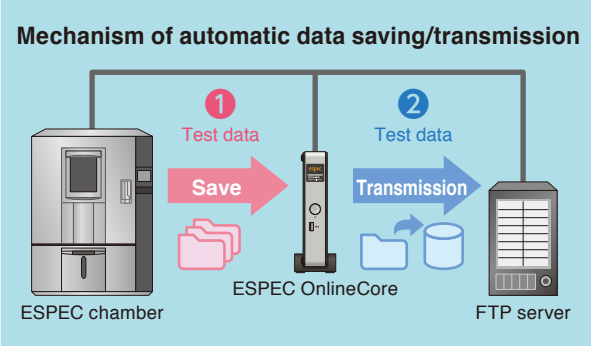
- Understanding the operating status makes it easier to plan for chamber expansion or dismantling.
- The operating rate and operating time for the selected period are calculated automatically for each chamber, and CSV output allows data for all connected equipment to be output at once.



Save the long duration test data

- The test data files stored in ESPEC chambers are saved in ESPEC OnlineCore.
- The storage capacity is enough for around 10 years of data from 100 chambers.

  * This may vary depending on the data collection cycle and other conditions.



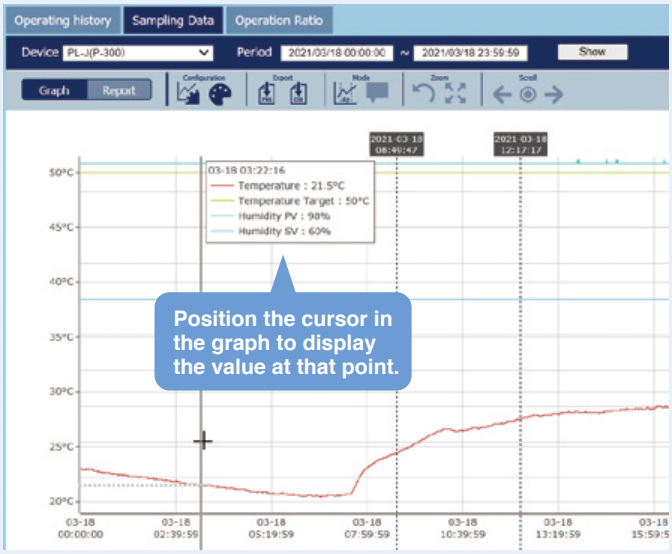
Automatic transmission of test data

- Test data is automatically transmitted to the specified FTP server and saved as backup for redundant management.

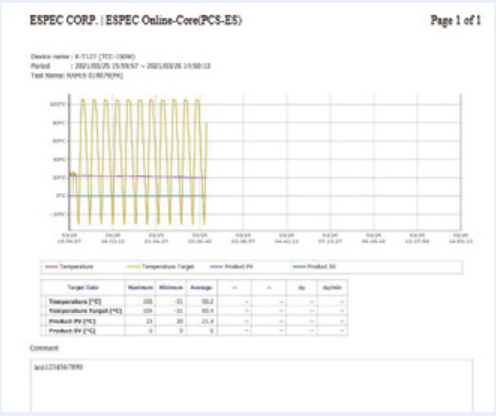
  * The FTP server must be prepared by the customer.
- Conforms to data management (collection, storage) in the ISO/IEC17025 requirements.

Automatic creation of graph display and test reports

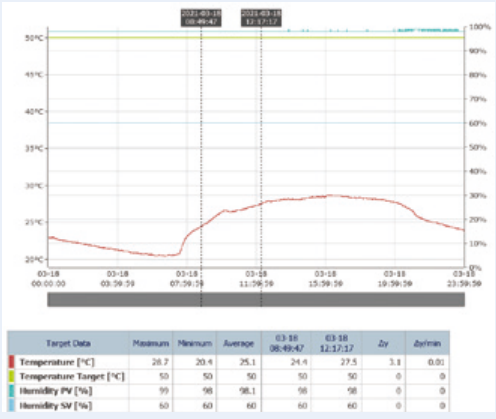
- Create test schedules, graph displays of any test period from the operation history, and test reports.
- Graph display, comment input, simplified analysis, and conversion to CSV output files are all possible.



Graph display

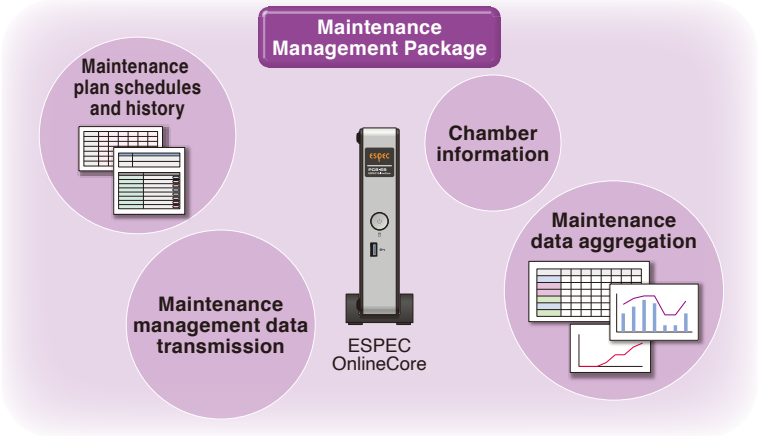


Report screen



Analysis screen

<Maintenance Management Package>
Reduce various parts of chamber management work and increases operation efficiency

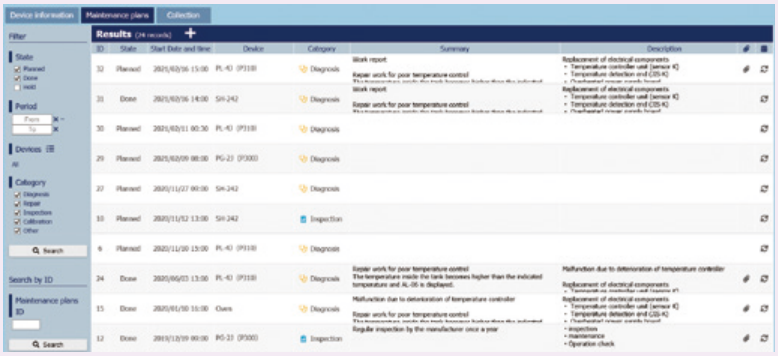


Together with the test management functions, centrally managing chamber maintenance data with ESPEC OnlineCore makes it possible to efficiently check the required information when necessary.
Conforms to data management (collection, storage) in the ISO/IEC17025 requirements.

Central management of repair history

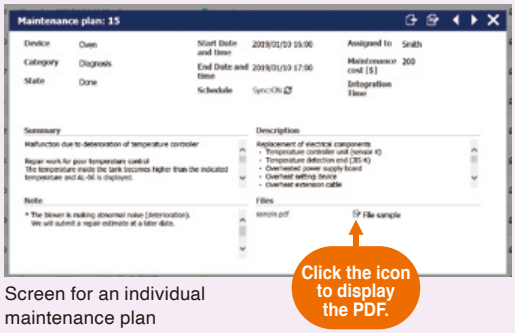
Maintenance plans

- The list shows the registered schedules and records of diagnoses, repairs, inspections, calibrations, etc.
- Use the settings to filter the list of saved plans to view.



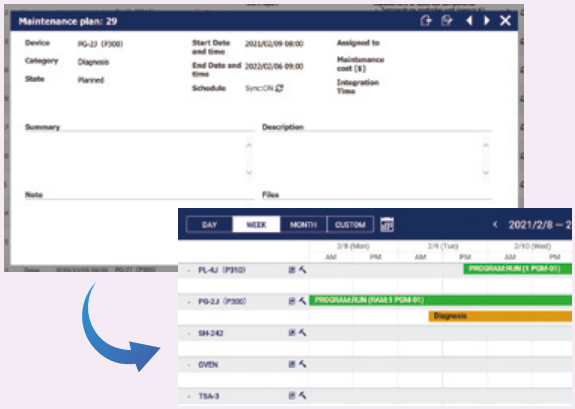
Maintenance plan list screen

- Save work reports and other such data in PDF format.



Screen for an individual maintenance plan

- Enter a maintenance plan to display its linked schedule.

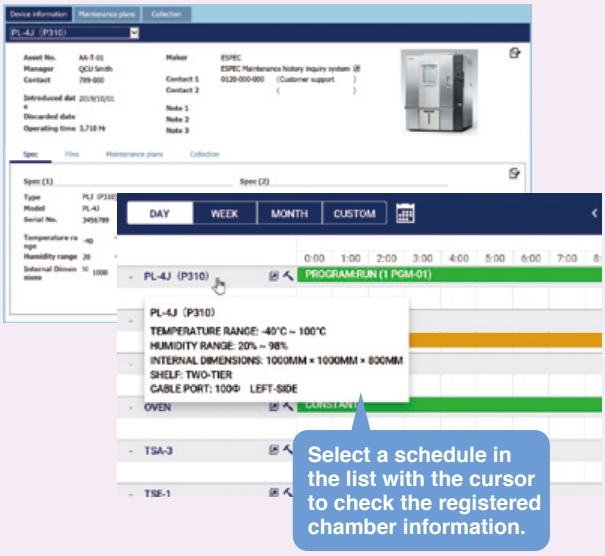


Linked schedule

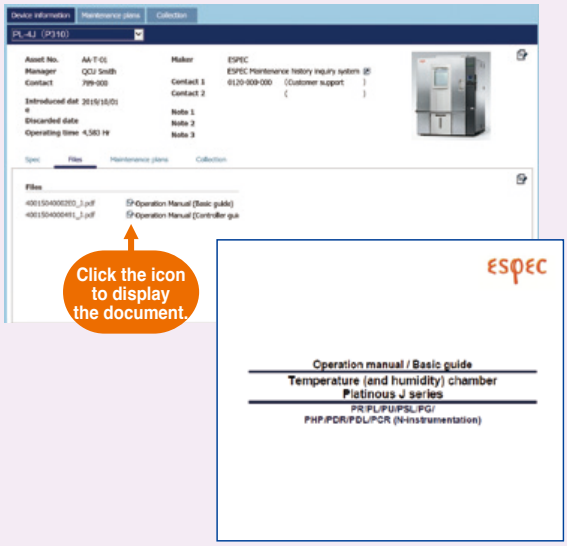
Streamlining test preparation with sharable test information

Chamber information

- Register management information and chamber specifications.
  Check the temperature and humidity range as well as the test area size when selecting the chamber.



- Save the user's manual and other such related documents for prompt reference when an error occurs or when chamber operation is difficult.



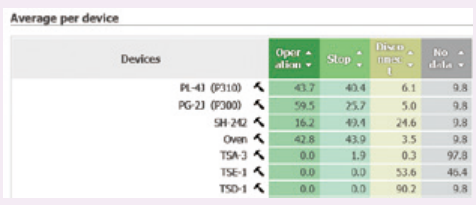
Automatic aggregation of everything from chamber maintenance costs to operating rate

Maintenance data aggregation

The operating rate, maintenance costs, and maintenance operation count can be aggregated yearly for all chambers or separately for each chamber, which is useful for managing budgets and planning facilities.

- Aggregate the operating rate for the following categories: operation, stoppage, communication impossible, and no data.

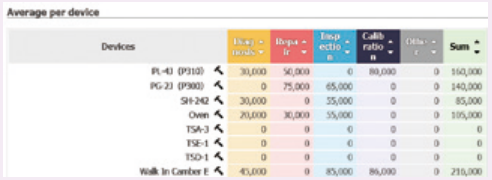
Operating rate aggregation for all chambers



Averages for each chamber

- Aggregate the costs registered to the maintenance plan.

Cost aggregation for all chambers



Costs for each chamber

Examples of Customization

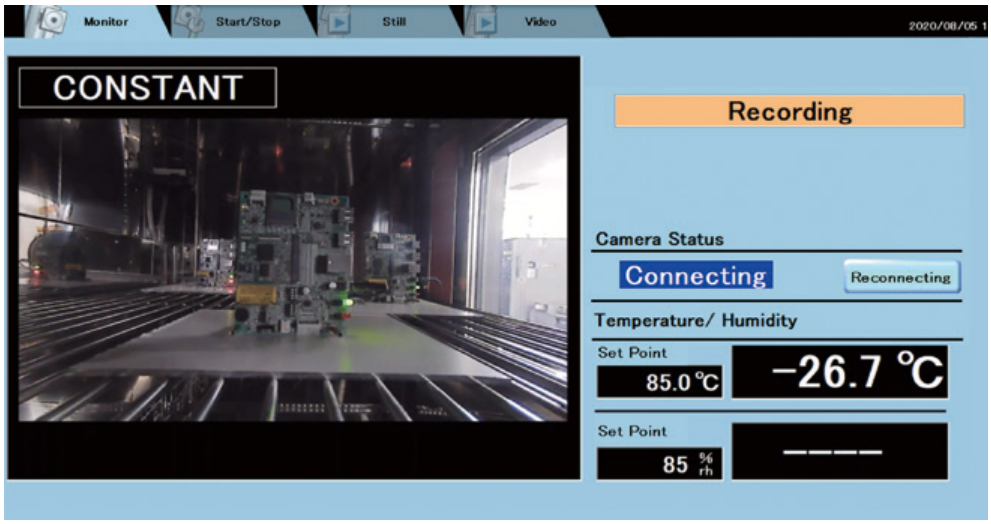
Chamber Cam

Identify the sample status during test operation

USB camera that can image the inside of the test area in temperature & humidity test environments ranging from -40 to +150°C and 0 to 98% rh

Installation method

Check the sample from a remote location.
▶P.13



SUC-0020

Resistant to high temperatures and humidity and low temperature

World's First

Capable of imaging in a broad range of temperatures from -40 to +150°C and humidity from 0 to 98% rh without being affected by condensation.

* Use this for temperature & humidity testing or temperature testing.

Simple! Install into a cable port.

(Limited to 50 ϕ and 100 ϕ plastic cable ports.)

Installation is completed just by installing the camera unit into the cable port. Filming is possible simply by connecting the camera to a PC USB port and using the special application.

Application operating environment:
Windows10 or later / CPU i5 or higher / RAM 4 GB or more

Examples of Customization

Chamber Cam

Synchronize images and test data

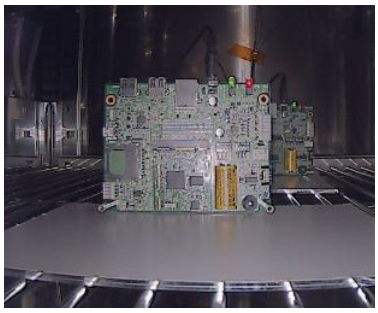
Captured images can be replayed synchronized with the test data.

Saved file format: JPEG (still images), MP4 (video)

Clearly see the inside of a dark test area

The special application can be used to turn the LED lighting ON and OFF.the test data.

LED lighting OFF



LED lighting ON

SPECIFICATIONS

Model	ϕ 50 mm cable port SUC-0010	ϕ 100 mm cable port SUC-0020
Test area conditions	-40 to +150°C / 0 to 98% rh	
Resolution	1280×720 (HD), aspect ratio 16:9	
Viewing angle	Horizontal: 136°, vertical: 70°	
Focus	Fixed focal point (0.16 - 1.95 m)	
Interface	USB 2.0	
Power supply	AC adaptor, 100 to 240 VAC ± 10%, 50/60 Hz, 1 A	
Weight	Approx. 700 g	Approx. 970 g
Dimension (D×W×H)	156.5×124×98＊ mm	156.5×148×148＊ mm

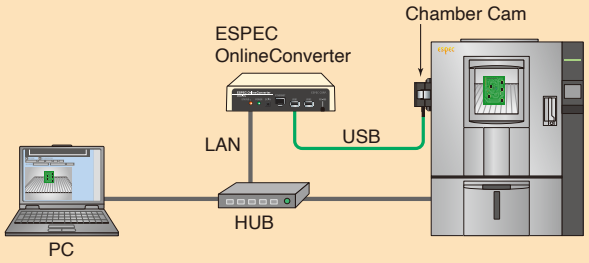
Some limitations may apply depending on the chamber. Contact ESPEC for more information.
* Dimension H is the size of the cable port cap.

Examples of Customization

ESPEC OnlineConverter add-on

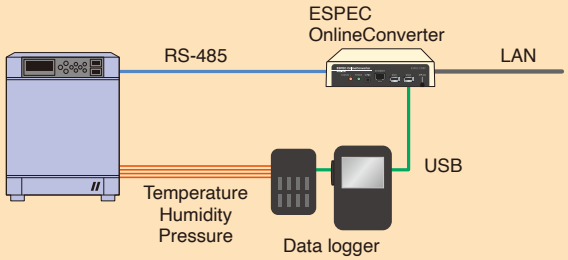
Support for Chamber Cam

Monitor images of the sample remotely from a travel destination or at home.
Images and test data can be downloaded, and can be replayed synchronized by using the special Chamber Cam application.



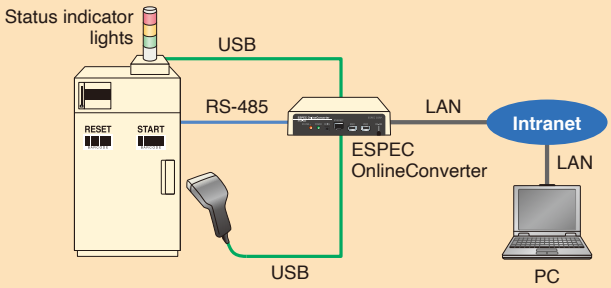
Thermocouple/voltage module

Perform synchronized monitoring and collection of chamber test data, specimen and other temperature and voltage data, and other measured values.



Barcode automatic operation system

Begin registration and testing simply by scanning a barcode, without changing the settings for each specimen. This also prevents errors in configuring the settings and other human errors. Specimen history data (operator, specimen, chamber name, operation start/end times, number of alarms) and test log data are saved automatically.
This data can be used to ensure traceability of test results.

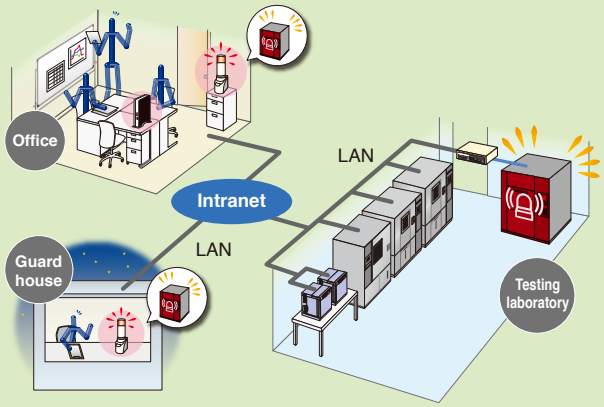


Examples of Customization

ESPEC OnlineCore add-on

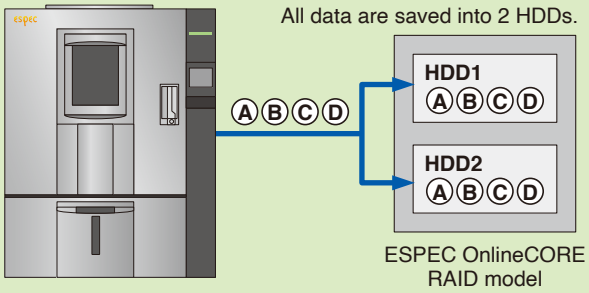
Office notification indicator light

Install an indicator light connected to a network in the office. The indicator light activates (illuminates, buzzer sound) for notification when ESPEC OnlineCore detects a chamber alarm.
The activation times and days of the week can be set, for example to activate in the office during the day and in the guard house at night.



ESPEC OnlineCORE RAID model

Now we propose the “RAID model (mirroring: RAID1) ”which duplicates all important data into second HDD is installed in it. No more need external data server.
Even if one of HDD is crashed, do not worry other one keeps storing all data.



Even if one HDD has crashed, other one stores all data.

The others

- **Large monitor display <andon display>**
- **Addition of registered equipment <maximum 200 units>**
- **Support for chamber cam**
- **Support for network camera**

* Illustrations are for purposes of explanation only.

ESPEC CORP. https://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

ESPEC NORTH AMERICA, INC.
Tel : 1-616-896-6100 Fax : 1-616-896-6150

ESPEC EUROPE GmbH
Tel : 49-211-361850-0

ESPEC ENVIRONMENTAL CHAMBERS SALES AND ENGINEERING LTD. STI. (Turkey)
Tel : 90-212-438-1841 Fax : 90-212-438-1871

ESPEC ENVIRONMENTAL EQUIPMENT (SHANGHAI) CO., LTD.
Head Office
Tel : 86-21-51036677 Fax : 86-21-63372237
BEIJING Branch
Tel : 86-10-64627025 Fax : 86-10-64627036
GUANGZHOU Branch
Tel : 86-20-83317826 Fax : 86-20-83317825
SHENZHEN Branch
Tel : 86-755-83674422 Fax : 86-755-83674228
SUZHOU Branch
Tel : 86-512-68028890 Fax : 86-512-68028860
TIANJIN Branch
Tel : 86-22-26210366 Fax : 86-22-26282186
XI'AN Branch
Tel : 86-29-88312908 Fax : 86-29-88455957
CHENGDU Branch
Tel : 86-28-88457756 Fax : 86-28-88474456
WUXI Branch
Tel : 86-510-82735036 Fax : 86-510-82735039

ESPEC TEST TECHNOLOGY (SHANGHAI) CO., LTD.
Tel : 86-21-68798008 Fax : 86-21-68798088

ESPEC ENGINEERING (THAILAND) CO., LTD.
Tel : 66-3-810-9353 Fax : 66-3-810-9356

ESPEC ENGINEERING VIETNAM CO., LTD.
Tel : 84-24-22208811 Fax : 84-24-22208822

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