

COLONIA®



Temperature (& Humidity) Walk-In Chamber COLONIA Series



is the basic design philosophy behind our products.



ETAC has gained a solid reputation as a manufacturer of environmental chambers that incorporate ergonomics. Our human approach to design can be found in the rounded corners of our original main test chambers. Now, ETAC is ready to introduce a second generation of walk-in chambers in our COLONIA Series. These new units, known as the "New COLONIA," will continue to offer the high degree of flexibility that has been appreciated in our first generation units. In addition, the new unit has been designed to improve and perfect its major functions through several innovations, including the following

using the LCD panel in the controller to enhance its monitoring capability,

extending its temperature and humidity control ranges, and

enlarging the effective space in the test chamber.

To raise the product assembly level at the factory prior to shipment, we have adopted a unitary design concept. This concept has resulted in the reduction of on-site chamber installation time and the improvement of the unit's overall quality. New COLONIA chambers include specifications that are ideal for testing finished products such as TVs, audiovisual equipment, automotive parts, and OA equipment. As well, we have fully organized our overseas service system to provide complete assembly, installation, and maintenance for our products in foreign countries. Choose the unit that best suits your specific applications. COLONIA Series are available in a variety of highly original designs, and unique features and functions.

Flexibility : To meet specific user needs in terms of installation, disassembly and transfer, and in obtaining optimal specifications through a broad selection of available options, COLONIA environmental chambers are designed to be very flexible.



Work Space Requirement for Chamber Assembly

width and depth of the test chamber respectively.

maintenance, door opening/closing, and joint sealing.

Installation Space

The required ceiling height is the height of the chamber plus 500mm. The overall dimensions of the unit are determined by adding 785 mm and 130 mm to the

As shown in the figure, add the work area to the dimensions of the chamber for

control unit

(opening and shutting space)

∢

500 or more (work space)



Chamber Types / Basic Feature Tables

Specifica	Internal Dimensions (mm) ations	W1670 × H2200 × D1670	W3470 x H2200 x D1670	W3470 × H2200 × D2570	W3670 × H2200 × D3270	W4370 x H2200 x D3470	W5270 × H2200 × D3470
Low Tem and Humidi	- 10 ~ + 80 15% ~ 95%RH	CH111P CH111PA	CH121P CH121PA	CH131P	CH141P	CH151P	CH161P
perature ty Chamber	- 35 ~ + 80 15% ~ 95%RH	CH311P CH311PA	CH321P CH321PA	CH331P	CH341P	CH351P	CH361P
Low Ten Cha	- 10 ~ + 80	CT111P CT111PA	CT121P CT121PA	CT131P	CT141P	CT151P	CT161P
nperature mber	- 35 ~ + 80	CT311P CT311PA	CT321P CT321PA	CT331P	CT341P	CT351P	CT361P

Types of Available Air-Cooled Refregeration Systems

(CH111PA, CH121PA, CH311PA, CH321PA, CT111PA, CT121PA, CT311PA, CT321PA)

Use of the air-cooled refrigeration system eliminates the work required for condenser cooling water piping. With the air-cooled refrigeration system, the chamber can eliminate the need for cooling water piping work. Since the unit is so constructed that the hot air from the heat exchanger (condenser) is discharged to the space above, the unit requires a system to handle this waste (such as an exhaust fan or an air-conditioner)

The products other than those specified above can be altered to an aircooled system (Option).

Chambers in the ETAC COLONIA Series stress safe and stable performance, and they are easy to operate.

ETAC COLONIA achieves its people-oriented design objectives by incorporating environmental protection measures and security functions. Please note the variety of basic functions included in the unit.

1. Improving monitoring functions with LCD panel permits.

The new controller ETACOM41 is a controller specifically designed for environmental test chambers of ETAC. This controller is equipped with a large display screen, is easy to operate, and is capable of providing monitoring functions.



The settings or the execution of the program can be checked on the graphic display screen.

Program steps can number as many as 999.

The program can be set to repeat as often as 9999 times, or it can be set to repeat indefinitely.

The controller permits the partial alteration, addition, deletion, or skipping of program steps.

Changing the control setting during the operation (setting change function) is now possible.

The controller contains an internal calendar function capable of indicating the time of test completion (year, month, day, hour) before the start of test.

By selecting the program starting step, it is possible to start the test at an intermediate step.

To protect the test specimens in the test chamber, the controller is equipped with an upper and lower limit setting capability that generates an abnormal temperature alarm when the chamber temperature exceeds the maximum or minimum allowable temperatures set prior to test.

Two output terminals for time signals are provided (contact capacity 0.1A).

Output terminals for test completion signals (contact capacity 0.1A).

Output terminals for external warning signals

(contact capacity 0.1A).

Output terminals for test interlock signals (contact capacity 0.1A).









Program Setting Screen

Operation Screen

5

2. ExtendingTemperature and Humidity Control Ranges

The temperature and humidity control ranges of the new unit is expanded from that of the existing units so that the lower temperature range limit can be extended to as low as +10. This expansion of the temperature and humidity control zone towards the lower temperature range has been made specifically to satisfy our customers' requests, and this has widened the applicable performance range of this new unit.



3. Improving Temperature and Humidity Uniformity

The temperature and humidity uniformity within the test chamber has been improved by increasing the air recirculation rate. This improvement is also applicable for handling the heat generated from test specimens.



4. Expanding Effective Space in the Test Chamber

The effective chamber space has been expanded by minimizing wall protrusions, such as by incorporating the use of the flat air conditioning unit in the space. Since these protrusions used to inconvenience the workers when positioning and setting test specimens, it is now possible to make more effective use of the test chamber space.



These data are based on measurements made from the vertical cross section along the centerline of the CH331P type unit (the cross hatched section in the illustration).

5. Meeting environmental protection measures while improving refrigeration performance

To achieve the company's goal of "The Realization of Environmentally Friendly Products," the refrigeration equipment and refrigeration circuits have been improved, and the refrigerant replaced by HFC404A to achieve the ozone depletion factor of zero (ISO14000 series compliance).

A newly designed refrigeration cycle permits stable refrigeration performance even under ambient temperatures as high as +35 . (Water-Cooled System).

6. Emphasizing Security Through Basic Design

By a basic design that puts an emphasis on security, the new environmental chamber provides secure and protective systems in its electric circuits and water piping, and provides protection to workers in the test chamber.

The chamber can be ventilated (air supply and exhaust) when occupied by a worker.

The door lock release mechanism operated from inside of the chamber has a double feature. (photo 1)

Since the system is equipped with an emergency stop switch, people outside the chamber can be notified immediately when an abnormal situation in the chamber is detected. (photo 2)

A large and easy - to - see warning lamp is installed above the door so that any unexpected problem in the chamber can readily be checked.

Includes a double overheat protection system based on two different action principles.

A monitoring system checks the life of the water purifier to prevent any undesirable effects caused by the degradation of the humidification water upon other parts of the system. (Photo 3).





Photo1







Photo2

Photo3

Meeting Future Needs by Advancing COLONIA

In response to the needs of society for increased measures such as energy conservation, COLONIA many advanced features are a step ahead.

1. Easy-to-See Chamber Condition Display Panel

In addition to the display of controller, a large display panel is provided above the door to indicate chamber conditions so that its temperature and humidity can be checked visually when entering and leaving the chamber.



2. Realizing Electric Power Savings

The thorough redesign of electric circuits permits the reduction of electric power for control to two thirds of that required by the traditional units (our company products). This contributes to energy conservation.



3. Use of New Packing Based on an Original ETAC Design for Exterior Envelope Sealing

Traditional silicon caulking requires a long drying period. With the use of a specially developed sealing gasket, the exterior envelope of Colonia chambers is well sealed, allowing for a shorter work period.



4. A Large Window Comes as a Standard Item

Since the viewing window (a wiperless type) at the shoulder height of the door is approximately 1.7 times larger than those in traditional units, it makes the observation of chamber interior from the outside easier. Since the window glass surface is coated with a membrane heater, no frosting problems occur.



5. In Principle Only One Person in the Chamber is Permitted

Regardless of the size of the chamber, the chamber ventilation is so designed as to permit only one working for extended period of time.



We can provide the ventilation system for several person if necessary. Please do not hesitate to ask.

6. With Rounded Corner is Easy on People

This "kind to human" design concept employs rounded corner wall panels, an idea that originated with our company. These rounded corners prevent people working within or near the chamber to feel confined or uncomfortable.



7. Grounding of Test Chamber

All panels in this unit are electrically connected via grounding chips specially designed for COLONIA to shield the chamber from external electrical noises and disturbances.

Layout as You wish High Performance will be Quickly Delivered

The on-site installation work takes five days.









Installation of floor panels

Installation of air conditioning units

Installation of control unit

Installation of wall panels



Installation of doors



Completion of installation

Installation Schedule for Standard Products

Standard Number of Days Items	1:	st	2	nd	3	rd	4th	51	th
Carrying in the Materials									
Panel Assembly Work									
Machinery and Equipment Installation Work									
Secondary Side Electrical Construction									
Primary Side Water Piping Construction (Customer)									
Primary Side Electrical Construction (Customer)									
Adjustment Trial Operation									
Inspection									
Witness Explanation · Acceptance									

Low Temperature and Humidity Chamber



S P E C I F I C A T I O N S

Sp	ecifications	CH111P	CH111PA	CH121P	CH121PA	CH131P	CH141P			
	Temperature Range	- 10 ~ + 80								
	Humidity Range				20% ~	95%RH				
	T									
	I emperature Heat-Up Rate									
Per	Tana antina Danaira Data					+ 20 -	· 10			
form		60 minutes	80 minutes	60 minutes	80 minutes	70 minutes				
ance	Temperature and Humidity Uniformity									
Û	Temperature and Humidity Variation Range									
	Temperature and Humidity Resolution									
	Sensors									
	Allowable Ambient Temperature		+	5 ~ + 35 (-	+5 ~ +30	for Air Cooled	Units)			
	Test Chamber Interior Dimensions ($W \times H \times D$ in mm)	1670×22	00×1670	3470×22	00×1670	3470×2200×2570	3670 × 2200 × 3270			
	Internal Volume (m 3)	6.1 12.7 19.6 26.4								
	Internal Floor Area (m ²)	2.79 5.79 8.92 12.0								
Mai	Overall Dimensions of the Unit (W \times H \times D in mm)	2455 × 2405 × 1800 4255 × 2405 × 1800 4255 × 2405 × 2405 × 340								
n Bo	Door Opening Dimensions (mm)									
ody	Allowable Floor Load									
	Exterior Material									
	Interior Material									
	Thermal Insulation									
	Fans					1				
~	Refrigeration Units (Hermetically Sealed Units)	Water Cooled	Air Cooled	Water Cooled	Air Cooled	Wate	r Cooled			
∕lajo	Refrigerants									
r Eq	Expansion Method									
uipm	Thermal Heaters									
lent	Humidifier Heaters									
	Evaporator									
	Display									
	Power Supply	200V A	C, 3 Phase, 5	0/60 Hz Fluctua	ation for Voltag	e Less Than ±	£ 10%.			
Re	Standard Electric Current [Max. Consumption] (A)			49		56	93			
quir	Standard Electric Power (kVA)		1	7		19.4	32.2			
ed F	Cooling Water (Refrigeration Ton)	1.9	-	1.9	-	3	.7			
acili	Maximum Humidifier Water Flow (liters/hr)			2						
Ţ	Humidifying Water									
	Drain Flow									
	Protection Devices	Leakage Breaker for Power Supply, Overheat Protector Overload Relay for Refrigeration, Emergency Shut-Off Switch								
	Additional Functions	Microcomputer Self-Diagnosis Function, Power Failure Recovery Protection, Function, Output Function for Upper and Lower Limit Temperature, Time Signal Message Function, Pause Function, Humidifier Water Monitoring Function,								
	Communication Function									
	Standard Feature	Viewing Window (W 350 × H 350 mm), Room Lamps, 54 mm Cable Port, Water Regulating Valve (except for Specification A)								

The indicated performance represents the unit performance measured during thirty minutes of stable operation without test specimens. Please be aware that the specification tables may be changed without notice when the units are improved or updated.

Allowable T two (Temperature Novable Tremple Laboration of the second se	Thermal Load Diag	Jram tion) KW Allowable Thermal Load Diagram		4 50 60 70 80 Room Temperature	Allowable (High Humidit High Humidit	Thermal Load Dia ty Operation at 90% I	gram RH) * The al depen tempe * Those the m AUTO	llowable thermal Ic Iding upon the aml rature, cooling wa ∋ indicated in the aximum allowable o running condition	iad will vary bient ter temperature. se diagrams are ∋ load under the
CH151P	CH161P	CH311P	CH311PA	CH321P	CH321PA	CH331P	CH341P	CH351P	CH361P
 					- 35	~ +80			
	+ 20	+ <u>8</u> 0			15% ~ 9	95%RH			
 		 nutes							
					+ 20	- 30			
60 minutes		60 minutes	80 minutes	90 minutes	110 minutes	80 minutes	70 minutes	60 minutes	70 minutes
 	±0.75 / :	±5.0%RH	<u> </u>	L	ı		I	·I	
 	±0.3 /±	±2.5%RH							
 	±0.1 / ±	±1.0%RH							
	Type-T Ther	mocouples							
		+5 ~	- + 35 (+5	~ + 30 for Air	Cooled Units)		0070	0.70	0.170
4370×2200×3470	5270×2200×3470	1670×22	.00 × 1670	3470×22	:00 × 1670	3470×2200×2570	3670 × 2200 × 3270	4370×2200×3470	5270×2200×3470
33.4	40.2	<u>ь</u>	.1	12	2.7	19.6	26.4	33.4	40.2
15.16	18.29	2.1	79	0. 1055 x 2x	79	8.92	12.0	15.16	18.29
5155 X 2405 X 3000	6055 x 2405 x 3000	2455 X 24	05 x 1800	4255 × 24	.05 × 1800	4255 x 2405 x 2700	4455 x 2405 x 3400	5155 X 2405 X 3000	6055 x 2405 x 3000
	600 kg/m ² (Si		.20						
	PVC Coated	Steel Plate							
Stainle	ess Steel Plate	SUS304 2B F							
Rigid Expand	ed Polyurethan	e Board (Thick	ness 65mm)						
	Siroco	o Fan							
Water C	ooled	Water Cooled	Air Cooled	Water Cooled	Air Cooled		Water	Cooled	
	HFC4	i04A	ι <u> </u>		I,				
 Pulse Cor	ntrol Electronic	Expansion Val	ve + Automati	ic Expansion V	alve				
 	Ni-Cr Strip	Heaters							
	Sheathed	Heaters							
	Plate Fir	n Coils							
Ľ	CD Display by	Graphic Matrix							
		200V A	AC, 3 Phase, 5	0/60 Hz Fluctu	ation for Voltag	e Less Than ±	10%.	· · · · · · · · · · · · · · · · · · ·	
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Keeping Func Output Termir Test Chambe	tion Preventio nals, Time Up Temperature	n with Instant Signal Output and Humidit	Power Failur t Terminal, Ca y Display Fun	e, Test Speci alendar Timer ction, "RUN"	men and Powe Function, Wa Display Functi	er Supply Inte it Function, Mo on, "TROUBL	rlock Function emory Backup E" Display Fu	i, External Ala Function, Us nction.	rm Output er
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Ventilation Fan User's Manual	ر ۱(for air supply ، ۱nspection Ce	and exhaust), F ertificate (with p	Refrigeration Pr erformance dar	ressure Gauge ta), Warranty E	s, Water Purifie	r, Wick (for We	st-Bulb Temper	ature Sensor),	

Low Temperature Chamber



S P E C I F I C A T I O N S

Temperature Range -10 -+80 Humidity Range +20 -10 Temperature Alext-Up Rate 60 minutes 60 minutes 60 minutes 70 minutes Temperature and Humidity Uniformity Temperature and Humidity Variation Range +38 (+5 -+30 for Air Cooled Units > Allowable Ambient Temperature +5 -+38 (+5 -+30 for Air Cooled Units > More Allowable Ambient Temperature +5 -+38 (+5 -+30 for Air Cooled Units > Internal Floor Area (m) 0.1 12.7 19.6 26.4 10 Userall Dimensions (fm the Unit (M × H × D in mm) 2455 x 2405 x 1800 4255 x 2405 x 1800 4255 x 2405 x 3400 455 x 2405 x 3400	Sp	ecifications	CT111P	CT111PA	CT121P	CT121PA	CT131P	CT141P			
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Image: Problem Supply Evaporator Power Supply 200V AC, 3 Phase, 50/60 Hz Fluctuation for Voltage Less Than ± 10%. Standard Electric Current [Max. Comsumption] (A) 31 38 59 Standard Electric Power (kVA) 10.7 13.2 20.4 Cooling Water (Refrigeration Ton) 1.9 - 1.9 - Drain Flow Leakage Breaker for Power Supply, Overheat Protector (Double Protection), Overload Relay for Refrigeration, Supply of Refrigeration, Current Supply, Overheat Protector (Double Protection), Overload Relay for Refrigeration, Current Supply, Overheat Protector, Cubele Protection, Current Supply, Overheat Protector (Double Protection), Overload Relay for Refrigeration, Current Supply, Supple Suppl	pme	Thermal Heaters									
Image: Standard Electric Display Operation of Standard Electric Current [Max. Comsumption] (A) Standard Electric Power (kVA) Operation Cooling Water (Refrigeration Ton) I.9 - 3.7 Cooling Water (Refrigeration Ton) 1.9 - 3.7 Drain Flow Leakage Breaker for Power Supply, Overheat Protector (Double Protection), Overload Relay for Refrigeration, Emergency Shut-off Switch, Protection Devices Microcomputer Self-Diagnosis Functions, Power Failure Recovery Protection, External Alarm Output Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Communication Function Viewing Window (W350 × H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve	int	Evaporator									
Power Supply 200V AC, 3 Phase, 50/60 Hz Fluctuation for Voltage Less Than ± 10%. Standard Electric Current [Max. Comsumption] (A) 31 38 59 Standard Electric Power (kVA) 10.7 13.2 20.4 Cooling Water (Refrigeration Ton) 1.9 - 1.9 - 3.7 Drain Flow Leakage Breaker for Power Supply, Overheat Protector (Double Protection), Overload Relay for Refrigeration, Emergency Shut-off Switch, Emergency Shut-off Switch, Emergency Shut-off Switch, External Alarm Output Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Standard Feature Viewing Window (W350 × H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve		Display									
Standard Electric Current [Max. Comsumption] (A) 31 38 59 Standard Electric Power (kVA) 10.7 13.2 20.4 Cooling Water (Refrigeration Ton) 1.9 - 3.7 Drain Flow 3.7 Protection Devices Additional Functions Microcomputer Self-Diagnosis Functions, Power Failure Recovery Protection, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Sefrigeration, External Alarm Output Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Sefrigeration Pressure Gauges, Water Regulating Valve	R	Power Supply	200V /	AC, 3 Phase, 8	50/60 Hz Fluctu	ation for Volta	ge Less Than	± 10%.			
Qamma and Participation Standard Electric Power (kVA) 10.7 13.2 20.4 Cooling Water (Refrigeration Ton) 1.9 - 1.9 - 3.7 Drain Flow Use the standard Electric Power (kVA) Protection Devices Leakage Breaker for Power Supply, Overheat Protector (Double Protection), Overload Relay for Refrigeration, Emergency Shut-off Switch, Emergency Shut-off Switch, Calendar Timer Functions, Power Failure Recovery Protection, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Standard Feature Viewing Window (W350 × H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve	equir	Standard Electric Current [Max. Comsumption] (A)		3	31		38	59			
Operation 1.9 1.9 1.9 3.7 Drain Flow Drain Flow Leakage Breaker for Power Supply, Overheat Protector (Double Protection), Overload Relay for Refrigeration, Emergency Shut-off Switch, Emergency Shut-off Switch, Emergency Shut-off Switch, External Alarm Output Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Standard Feature Viewing Window (W350 × H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve	ed F	Standard Electric Power (kVA)		1(0.7		13.2	20.4			
Communication Function Microcomputer Self-Diagnosis Functions, Power Failure Recovery Protection, External Alarm Output Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Standard Feature Standard Feature Viewing Window (W350 x H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve	acilit	Cooling Water (Refrigeration Ton)	1.9	-	1.9	-	3	.7			
Leakage Breaker for Power Supply, Overheat Protector (Double Protection), Overload Relay for Refrigeration, Emergency Shut-off Switch, Additional Functions Microcomputer Self-Diagnosis Functions, Power Failure Recovery Protection, External Alarm Output Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Communication Function Viewing Window (W350 x H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve	~	Drain Flow									
Additional Functions Microcomputer Self-Diagnosis Functions, Power Failure Recovery Protection, External Alarm Output Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function, Communication Function Viewing Window (W350 × H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve		Protection Devices	Leakage Breaker for Power Supply, Overheat Protector (Double Protection), Overload Relay for Refrigeration, Emergency Shut-off Switch,								
Communication Function Viewing Window (W350 × H350 mm), Standard Feature Viewing Window (W350 × H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve		Additional Functions	Microcomputer Self-Diagnosis Functions, Power Failure Recovery Protection, External Alarm Output Function, Upper Calendar Timer Function, Wait Function, Memory Backup Function,								
Standard Feature Viewing Window (W350 × H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve		Communication Function									
		Standard Feature	Viewing Window (W350 × H350 mm), Refrigeration Pressure Gauges, Water Regulating Valve								

The indicated performance represents the unit performance measured during thirty minutes of stable operation without test specimens.

Please be aware that the specification tables may be changed without notice when the units are improved or updated.

One Refrigeration Ton =13 liters per minute

Allow (Temp W Novable Themal Load Dagram	able Thermal Load Dia erature Control Mode Oper	ration) W W W W W W W W W W W W W		40 50 60 70 80 Room Temperature	Allowable Thermal Load Diagnam	0 20 30 40 50 6 Room Te	* The a depentermpresenter	Illowable thermal k nding upon the am erature, cooling we e indicated in the naximum allowabl D running condition	iad will vary bient ter temperature. se diagrams are e load under the			
CT151	P CT161P	CT311P CT	311PA	CT321P	CT321PA	CT331P	CT341P	CT351P	CT361P			
					- 35	~ +80						
	+ 20	+ 80										
	60 mi	nutes										
					+ 20	- 30						
60 minut	res	60 minutes 80 r	ninutes	90 minutes	110 minutes	80 minutes	70 minutes	60 minutes	70 minutes			
	±0.	2										
	±0 +0	.5										
	Type-T The	rmocouples										
	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		+ 5	~ +35 (+5	~ + 30 for	r Air Cooled Un	iits)					
4370×2200×3470 5270×2200×3470 1670×2200×1670 3470×2200×1670 3470×2200×2570 3670×2200×3270 4370×2200×3470 5270×2200×3470												
<u>33.4</u> 40.2 6.1 12.7 19.6 26.4 33.4 40.2												
15.16 18.29 2.79 5.79 8.92 12.0 15.16 18.29												
5155 × 2405 ×	3600 6055×2405×3600	2455 × 2405 × 1	800	4255×240	05×1800	4255×2405×2700	4455 × 2405 × 3400	5155×2405×3600	6055×2405×3600			
	Single Swing Doc	r W850×H1820										
	600kg/m ² (S	urface Load)										
	PVC Coated	Steel Plate										
5	Stainless Steel Plate	SUS304 2B Finish										
Rigid Ex	panded Polyuretha	ne Board (Thickness	65mm)									
	Siroco	o Fan						<u> </u>				
		Water Cooled Air	Cooled	Water Cooled	Air Cooled		Water	Cooled				
Dulas Can	HFC											
Puise Con	Ni-Cr Stri	nsion valve + Autor	nauc Exp	Dansion valve								
	Plate F	in Coils										
	L CD Display by Graphic Matrix											
200V AC, 3 Phase, 50/60 Hz Fluctuation for Voltage Less Than ± 10%.												
	74		3	8		46	74	8	9			
	25.8		13	3.2		15.9	25.6	30	.8			
	7.4	3.7	-	3.7	-	5.5	7.4	11	.1			
N	atural Drain (Open	to atmosphere) 20A										
High and Lo Circuit Brea and Emerge	ow Pressure Limit Sv ker for Thermal Hea ency Escape Mechar	vitch, Overload Relay f ter, Circuit Breaker for iism	or Fan Sv Control C	vitch, ircuit.								
Keeping and Lower User Mess	Function Prevention Temperature Outp sage Function, Pau	n with Instant Power ut Function, Time Sig se Function, Test Ch	Failure, T gnal Outp amber T	Fest Specimen a out Terminals, T emperature Disp	and Power Sup ime Up Signal blay Function,	oply Interlock F I Output Termir "RUN" Display	unction, al, Function, "TR(OUBLE" Displa	y Function.			
	GP-IB, RS232C o	r RS422A (Option).										
Room Lan (except for	Room Lamps, 54mm Cable Port, Ventilation Fan (for air supply and exhaust), (except for Specification A), User's Manual, Inspection Certificate (with performance data), Warranty Document.											

Hinged Double Door **Hinged Single Door User Option List Abundant Options to Meet a Variety of Customer** Effective Opening Dimensions: Effective Opening Dimensions: W1400 × H1820 mm W850 x H1820mm Needs. Stainless Steel Plate for Reinforcement of Interior Bottom Large Door Cable Port **Operation Slot** Hinged Double door with an This panel is needed to prevent rut The inner diameter of this port is The measurement port of the opening of W2000 × H2000 mm. marks on the floor surface when standard inner 54 mm or 120 mm 150mm. The port is used to insert or castered dollies are used to move test This door is most suitable when is available. (The location of the port extract the specimens from outside specimens into the test chamber. Since handling large products or test will be determined with the consent of the test chamber. Use this slot in the standard floor surface loading is 600 specimens that are brought in on of the customers) conjunction with the viewing kg/m² of the floor area, this reinforcing panel is needed only when the floor the rack for environmental testing. window. loading exceeds 600 kg/m². When the floor reinforcing panel is used, the standard time required for heating and cooling will be altered. Viewing Window **Sloped Stepping Plate Defrost Circuit** Flashing Warning Light (containing an anti-freezing heating element) This is a defrost circuit for the hot This hot wire imbedded glass This light will be lit whenever an This plate is made of 6mm thick window has the dimensions of W600 gas defrost method. Use this circuit abnormality occurs in the chamber aluminum plate, and is available when test specimens are frequently × H400 mm. The window is best operation. The blinking signals are either in the one-side-openable type taken in and out of the low suited for monitoring and studying generated by the rotation of the or the two-side-openable type. temperature test chamber the interior of the test chamber. lamp at a rate of 170 times/minute, and the signals can be visible from a distance. Air cooled refrigerator Additional Cooling System Vinyl Curtain Indicator Lights Face Plate for Specimens Load specification Air Cooling Use the air cooled hermetically This curtain is used to minimize Use this system when the heat This plate display panel is used to fluctuations in the test chamber generated by the test specimens sealed refrigeration system for indicate the chamber's operating environment when its door is exceeds the standard allowable chamber cooling when cooling conditions and equipment names. water piping (for condenser) cannot The signs are either printed or opened and closed frequently. thermal load. be installed due to building engraved. The standard sign is construction complications or due to "RŬN." chamber location.



Option Table

ETAC Watching System (Central Control and Monitoring /Automated Instrumentation System)

	Тур	es
Option Names	СН	СТ
Hinged Double Door		
Hinged Single Door		
Large Door		
Stainless Steel Plate for Reinforcement of Interior Bottom		
Sloaped Stepping Plate		
Vinyl Curtain		
Cable Port (54 mm)		
Cable Port (128 mm)		
Flashing Warning Light		
Plug Socket (100V/15A)		
Plug Socket (200V/20A)		
Indoor Fluorescent Lamps		
Interphone		
Large Viewing Window (with the imbedded frost prevention heating wire)		
Smoke Detector		
Indicator Light Face Panel		
Defrost Circuit		
Total Ceiling Surface Air Diffuser System Specification		
No Floor Panel Specification	×	
Preparation Room		
Additional Cooling System		
Air-Cooled Refrigeration System Specification		
The - 40 Specification		
Low Temperature and Low Humidity Specification		×
Recorder		
RS232C Interface		
GP - IB Interface		
AUTO START/AUTO STOP Function		
Automatic Power Failure Recovery Function		
Additional Overheat Protector		
Overcooling Protector		

C-BUS, Central Control and Monitoring System

ETAC WATCHING SYSTEM C - BUS permits the checking and monitoring of the running conditions of environmental testers through a personal computer. As long as the environmental tester is equipped with a communication interface (RS232C), which is the case for HIFLEX series testers and others, the C - BUS enables that computer to set up the test conditions, monitor the test in progress, verify the test completion time, and assess problems if there are any.



To connect more than two environmental test chambers



Automated Instrumentation System

In addition to C - BUS, the system is equipped with AUTEST, which is capable of automatically controlling the voltage applied to the test specimens by making it synchronous with the environmental test conditions. AUTEST permits the real time display of test conditions, specimen temperatures, as well as the voltage data at the specified measurement locations by converting these data into a digital form via A/D converter. These digitized data can also be stored for other uses. By having the standard characteristic data of the test specimens input and stored in its memory prior to the test, AUTEST can identify and reject the defective specimens in its data processing stage if any one of these data during the test exceeds the allowable limit. One "Watching Unit" is installed on each environmental chamber. For a multiple chamber system, information from each chamber is integrated into the personal computer through the protocol converter for the management and analysis of the measured data.



System structure

Construction Work for Connecting to the Primary Side





C Cooling Water Construction Complete the cooling water work by using specified piping materials (equivalent of SGP). The pipe diameter is PT11/4B. Make sure that the water flow rate satisfies the specified value (see the table below).



D Humidifier Water Construction Connect the water line whose quality is better than ordinary tap water and whose pressure is between 2.0 -7.0 kg.



A Leveling of Floor Surface Prepare the floor surface to be as flat and horizontal as possible. Also secure the space needed to store parts and equipment for installing the test chamber. An area twice as large as the installed space of the chamber must be made



E Drain Connection Construction1 Drainage from air-conditioner. The diameter of the drain pipe is PT3/4B.



B Electric Construction Connect the power cables securely at the terminal block of the chamber through its cable port of 50 mm diameter. The allowable voltage fluctuation of the power supply is ± 10%, and the noise level should be less than 1.5 kV for 1 microsecond or higher. Make sure that the power supply is firmly grounded.



F Drain Connection Construction2 Drainage from the inside bottom of chambers. The drain pipe diameter is 3/4B. The drain outlet should be open to the atmosphere.

Maximum Power Consumption (In case of 200VAC, 3phase)

(CH Type)

		111P	111PA	121P	121PA	131P	141P	151P	161 P	311P	311PA	321P	321PA	331P	341P	351P	361P
СН	Current Rating(A)		(4	9)		(56)	(93)	(10	(108) (56)				(63)	(108)	(12	23)	
	Electric Power(kVA)	17				19.4	32.2	37	7.4	19.4				21.8	37.4	42	2.6
CT -	Current Rating(A)	(31)			(38)	3) (59)			(38)			(46)	(74)	(8	39)		
	Electric Power(kVA)	10.7			13.2		20.4	20.4 13.2			15.9	25.6	30	0.8			

Cooling Water for Refrigerator Unit 1RT =13 liters/minute

-		-											
Total Flow Rate (RT)	1.9	-	1.9	-	3.7	7.4	3.7	-	3.7	-	5.5	7.4	11.1
Friction Loss (kg/cm ² G)	0.7	-	0.7	-	0.7	0.7		-	0.7	-		0.	.7

Humidifier Water Flow (liters/hr)

	Only for the CH type	2.0	4.0	2.0	4.0
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ETAC creates IA (Inspect Automation).



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For further inquiries, contact:



This clover logo represents our reliable services Promptness and accuracy are our company's first priority.

Notice for safe use !

When using, please read attached manual carefully. Avoid installing in places where water, moisture, dust, or soot may gather. These may cause fire, accident, or electric shock.