



- // CLIMATIC TEST CHAMBERS
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**CONTROLLERS FOR REFRIGERATED
CHAMBERS AND INCUBATORS**



**ICH CLIMATIC AND STABILITY TEST CHAMBERS
WITH OR WITHOUT HUMIDITY CONTROLLER
HORIZONTAL AIR FLOW MODELS**

**ICH STABILITY AND CLIMATIC TEST CHAMBERS.
HORIZONTAL AIR FLOW MODELS**



**CLIMATIC TEST CHAMBERS
WITH OR WITHOUT HUMIDITY CONTROLLER
VERTICAL AIR FLOW MODELS**

**CLIMATIC TEST CHAMBERS
WITH OR WITHOUT HUMIDITY CONTROLLER.
VERTICAL AIR FLOW MODELS**



**REFRIGERATED INCUBATORS
LINE 4000 FOR CLIMATIC AND STABILITY TESTS
VERTICAL FORCED AIR MODELS**

**REFRIGERATED INCUBATORS - INOX BASIC LINE
FOR CLIMATIC AND STABILITY TESTS
VERTICAL FORCED AIR FLOW MODELS**



**REFRIGERATED INCUBATORS - DOB LINE
FOR CLIMATIC AND BOD TESTS.
VERTICAL FORCED AIR FLOW MODELS**

**REFRIGERATED INCUBATORS FOR CROMATOGRAPHIC
OR BIG SIZE AGITATORS APPLICATIONS**



**DROSOPHILIA AND ENTOMOLOGY CHAMBERS
DPH 4000 LINE AND INOX DPH LINE.
VERTICAL FORCED AIR MODELS**

**ACCESSORIES FOR LARGE CAPACITY REFRIGERATED
INCUBATORS WITH OR WITHOUT HUMIDITY CONTROL**



**WALK-IN CHAMBERS FOR STABILITY
AND INCUBATION TESTS**

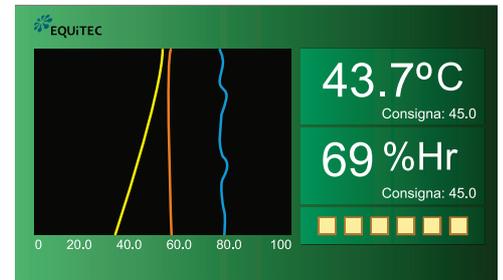




4100 SERIES CONTROLLER



ICH NANOAC CONTROLLER



4500 SERIES CONTROLLER

OUR PRODUCTS AND APPLICATIONS

- Chambers and rooms for climatic tests
- Horizontal flow chambers for ICH tests
- Pharmaceutical Stability Test Chambers
- Photostability tests
- Food and drinks control
- Algae growth
- Frost formation
- Chambers for controlled tests according to ATEX
- Drosophila and insects research
- Large capacity incubators
- LED Light grow
- Low temperature chambers
- Tissue culture
- Visitable culture chamber
- Freezing chambers
- Vaccine storage
- Controlled storage
- Refrigerated incubators
- BOD Incubators
- Incubators and testing chambers for front or rear loading

CHAMBERS AND REFRIGERATED INCUBATORS FOR TESTS AND CULTURES

- Temperature range from +4° to +60° (optimal from +90°C to -30°C).
- Humidity control: work range from 20% to 95% R.H.
- Graphic operator panel with touchscreen 4,3", optional 7,0" TFT.
- Electronic data recorder with graphical data representation and USB exit for file download.
- Temperature and/or humidity control.
- Optional: light intensity control, day/night photoperiod.
- Probe with 0.1°C precision.
- Microprocessor for control and programming of the parameters with PID system.
- Optional: control according to 21 CFR Part 11 of FDA.
- Ultrasound humidification system, optionally electrodes or nozzles.
- Product protection through security thermostat for minimum/maximum temperature.

OPTIONAL ACCESSORIES

- Video recorder without paper according to CFR 21 Part 11 of FDA.
- Pharmaceutical software with recording and measurement values.
- Custom shelves, with adjustable height, loading trolley or with wheels.
- Daylight tube for algae growth.
- Tubes for the growing of plants in the trays or in the ceiling.
- Tubes with different LED diodes configurations.
- Digital printer for temperature and/or humidity control.
- Remote control alarm exit (4-20 mA).
- RS 485 control connexion interface + communication protocols.
- Additional access ports for wires and tubes.
- Internal socket.
- GSM Telephone alarm module.
- UV Light tubes for sterilization.
- Wi-Fi module with Ethernet connexion + web visualisation. 72 hours battery, back-up for power failure situations.
- Ethernet connexion.
- USB connexion, for stored data download. Communication software with PC, on-demand.
- CO₂ measurement system through infrared cell or thermal sensor.
- Irrigation systems.
- Special wall bypassers and cable glands.
- incubators and testing chambers as gateway of goods in clean rooms, front or rear loading

CLIMATIC AND STABILITY
TEST CHAMBERS ACCORDING TO ICH
HORIZONTAL AIR FLOW MODELS

*CLIMATIC ICH TEST CHAMBERS
WITH OR WITHOUT HUMIDITY CONTROL*

*EICHS ICH AND EICHS MODELS
FROM +4°C TO +60°C
HUMIDITY RANGE FROM 20% TO 90% RH*

**From +4° a +60°C
From 20% to 90% HR**



// EICHS 703 ICH

LABORATORY CHAMBERS FOR CLIMATIC TEST AT CONSTANT TEMPERATURE AND HUMIDITY (EICHS ICH, EICHS ICH/HR, EICHS AND EICHS/HR MODELS)

- Brings 4100 and 4500 series controllers in EICHS models, Nanodac in test models EICHS ICH, with graphical data representation.
- Backlighted TFT touchscreen of 4,3" or 7,0" depending on the model for temperature and/or humidity control with graphical representation of the temperature and/or humidity curve.
- +/-0.1°C precision on-screen.
- +/-1.0°C homogeneity at the chamber's inside at 37°C.
- +/-0-5°C stability at the chamber's inside at 37°C.
- Cooling system controlled by electrovalves.
- Security thermostat, protects samples from high temperatures.
- Microprocessor control parameters control temperature through a Pt100 or capacitive probe (depending on the model), with a +/- 0.1°C resolution.
- Humidity control: between 20% and 90% RH (+/- 2% RH), in a temperature range between +19°C and +40°C, in EICHS ICH HR and EICHS HR models.
- Capacitive electronic probe (4-20mA) with a +/-0,75% RH precision (optional 0,5% RH).
- Humidity generator by ultrasound introducing microscopic water drops at ambient temperature in the chamber (optionally electrodes).
- Drying system by condensation through refrigerating evaporator.



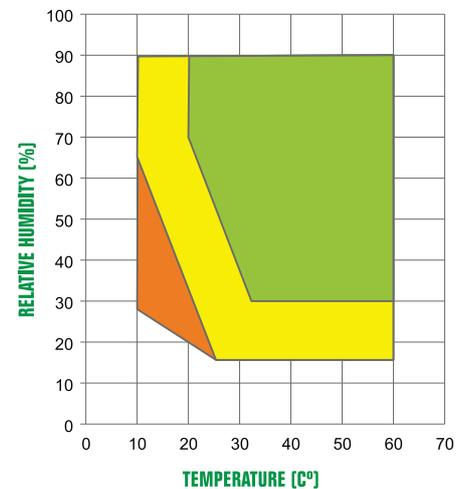
Horizontal air flow

TECHNICAL SPECIFICATIONS

- Internal door with thermal security glass, with hermetic seal.
- Opaque external door, heated to avoid condensations in the internal glass door, self-closing and large handle.
- Microprocessor to control parameters with PID system.
- Independent alarms, visual and sonorous, for maximum and minimum temperatures, with backup battery, with more than 48h duration (72h optional).
- System settings protected by numerical passwords.
- Controller remembers maximum and minimum temperature values, with graphical representation of them.
- Optional: external door with heated double glass with large handle.
- Forced air cooling, horizontally and evenly distributed, with high homogeneity of the temperature inside the chamber.
- High density of 60 mm polyurethane insulator (CFC and HCFC free).
- Cooling gas, CFC and HCFC free, biodegradable.
- Hermetic compressor, set on dampers to reduce noise levels.
- Independent cooling and heating systems.
- AISI 304 stainless steel internal finish (optional AISI 316).
- Rounded corners to facilitate cleaning.
- Perforated stainless steel shelves, with adjustable height.
- Heated door frame to ensure an ice-free closure, in models up to -30°C/-20°C /-10°C.
- Magnetic seal in external door to ensure hermetic closure of both the external and internal door.
- Wall bypass to introduce wires and external instruments.
- External steel finish, epoxy covered.
- Stainless steel legs with adjustable height.
- 4 wheeled base to facilitate movement, with legs with adjustable height.
- Functions in workplaces with temperatures up to +32°C.



ICH Nanodac tests controller



- OPERATING RANGE WITH HUMIDITY
- RANGE DEPENDING ON CONFIGURATION
- PUNCTUAL RANGE FOR SHORT PERIODS

CLIMATIC AND STABILITY TEST CHAMBERS
WITH OR WITHOUT HUMIDITY CONTROL
ACCORDING TO ICH
HORIZONTAL AIR FLOW MODELS

EICHS ICH MODELS FROM +4°C TO +60°C
HUMIDITY RANGE FROM 20% TO 90% RH

STABILITY TEST CHAMBERS
WITH OR WITHOUT HUMIDITY CONTROL

From +4° a +60°C
From 20% to 90% HR



TEST	STORAGE CONDITIONS	DURATION
LONG-TERM	25°C +/- 2°C 60% HR +/- 5%	12 months
MIDDLE TERM	30°C +/- 2°C 65% HR +/- 5%	6 months
ACCELERATED	40°C +/- 2°C 75% HR +/- 5%	6 months



// EICHS 1503 HR ICH

OPTIONAL ACCESSORIES FOR EICHS ICH, EICHS ICH/HR, EICHS AND EICHS/HR MODELS

- Security thermostat, protects samples from high or low temperatures.
- Humidity generator up to +95% RH
- Air drying system up to 15% RH at +4°C.
- Independent alarms, audible and visual for maximum and minimum temperatures with backup battery, with more than 48h of duration (optional 72h).
- Circular temperature recorder 7 days, with backup batteries.
- USB port for system data storage.
- RS 485/232 conexion for remote control.
- PC Software (on demand).
- Free of pontential exit for remote alarm control.
- Programmable test period through digital controller.
- UVA, UVB or UVC type germicidal or sterilization light tubes for sterilization.
- Internal socket inside the chamber.
- Telescopic trays for instruments.
- Wall bypass for introducing wires and external instruments (agitators, chromatographs, etc.).
- Thermic glass door with heated frame in models with humiditiy control or low temperature.
- Stainless steel outside.
- Optional models oriented to ICH stability tests.
- Incubators and TESTING chambers AS GATEWAY of goods in clean rooms, front or rear loading

OPTIONAL ACCESSORIES

See page 31



// **EICHS 752 HR CLEAN Gateway chamber for passage of goods in clean rooms, front or rear loading and internal sweep with filtered air**



ICH NANODAC test Controller for models finished in "3"

- TFT Touchscreen of 4.3" (7.0" optional) with graphical measurement data representation.
- GSM Telephone alarm module (optional).
- RS 485 Conexion for remote control (optional)
- Ethernet output, to monitor data by cable (MODBUS TCP/ICP) or by wireless module, including specific software for visualization and control of the data (optional).
- Battery duration with bigger backup of 48 hours (72 hours optional).



4100 series Controller for models finished in "2"

- TFT Touchscreen of 4.3" (7.0" optional) with graphical measurement data representation.
- GSM Telephone alarm module (optional).
- RS 485 Conexion for remote control (optional)
- Ethernet output, to monitor data by cable (MODBUS TCP/ICP) or by wireless module, including specific software for visualization and control of the data (optional).
- Battery duration with bigger backup of 48 hours (72 hours optional).

RANGE	CLIMATIC TEST CHAMBERS					
ICH MODELS WITH HUMIDITY CONTROL	EICHS 183 ICH HR	EICHS 353 ICH HR	EICHS 503 ICH HR	EICHS 703 ICH HR	EICHS 753 ICH HR	EICHS 853 ICH HR
ICH MODELS WITHOUT HUMIDITY CONTROL	EICHS 183 ICH	EICHS 353 ICH	EICHS 503 ICH	EICHS 703 ICH	EICHS 753 ICH	EICHS 853 ICH
HORIZONTAL MODELS WITH HUMIDITY CONTROL	EICHS 182 HR / EICHS 185 HR	EICHS 352 HR / EICHS 355 HR	EICHS 502 HR / EICHS 503 HR	EICHS 702 HR / EICHS 705 HR	EICHS 752 HR / EICHS 755 HR	EICHS 855 HR / EICHS 855 HR
HORIZ. MODELS WITHOUT HUMIDITY CONTROL	EICHS 182 / EICHS 185	EICHS 352 / EICHS 355	EICHS 502 / EICHS 503	EICHS 702 / EICHS 705	EICHS 752 / EICHS 755	EICHS 852 / EICHS 855
TEMP. (°C) RANGE WITHOUT HUMIDITY CONTROL	+4/+60 (Optional: -10°C/-20°C/-30°C)					
TYPE OF CONTROLLER	ICH NANODAC controller in models finished in "3" / 4100 controller in models finished in "2" / 4500 controller in models finished in "5"					
MODELS WITH HUMIDITY CONTROL	from 20% to 90% HR					
TEMP. RANGE WITH CONTROLLED HUMIDITY (°C)	+19/+50	+19/+50	+19/+50	+19/+50	+19/+50	+19/+50
RATED CAPACITY NET/ GROSS (liters)	145/182	305/350	410/500	505/700	515/750	755/850
INTERIOR MEASUREMENTS [mm] W x D x H*	600 x 620 x 380	850 x 600 x 687	605 x 595 x 1009	600 x 600 x 1350	500 x 620 x 1650	900 x 620 x 1350
EXTERIOR MEASUREMENTS [mm] W x D x H*	805 x 790 x 1000	925 x 805 x 1150	850 x 800 x 1605	850 x 800 x 1980	1050 x 790 x 1980	1150 x 790 x 1980
CLEAR OF DOOR [mm] W x H**	500 x 300	600 x 600	600 x 850	600 x 1100	500 x 1400	800 x 1100
INSULATOR THICKNESS [mm]	60	60	60	60	60	60
INTERIOR FINISH	Stainless steel					
EXTERIOR FINISH	Epoxy covered steel					
N° OF INTERNAL GLASS DOORS	1	1	1	1	1	1
TYPE OF EXTERIOR DOOR	Blind	Blind	Blind	Blind	Blind	Blind
LOCK	Yes	Yes	Yes	Yes	Yes	Yes
NUMBER OF SHELVES	1	2	3	4	4	4
SIZE OF THE SHELVES [mm] W x D***	530 x 610	520 x 610	530 x 610	530 x 610	430 x 610	830 x 610
MATERIAL OF THE SHELVES	Stainless steel					
SHELVES SURFACE / CHAMBER'S TOTAL (m ²)	0,32/0,32	0,31/0,31	0,32/0,97	0,32/1,28	0,26/1,05	0,51/2,02
WALL BYPASS / CABLE GLAND	Yes	Yes	Yes	Yes	Yes	Yes
DATALOGGER	Yes	Yes	Yes	Yes	Yes	Yes
USB OUTPUT	Yes	Yes	Yes	Yes	Yes	Yes
SCREEN GRAPHICS	Yes	Yes	Yes	Yes	Yes	Yes
RS485 CONNECTION PORT WITH MODBUS	Yes	Yes	Yes	Yes	Yes	Yes
REMOTE ALARM EXIT FREE OF POTENTIAL	Yes	Yes	Yes	Yes	Yes	Yes
BATTERY	Yes	Yes	Yes	Yes	Yes	Yes
VOLTAGE FAILURE ALARM	Yes	Yes	Yes	Yes	Yes	Yes
ROOM TEMPERATURE PROBE	Optional	Optional	Optional	Optional	Optional	Optional
TYPE OF COOLING	R404a optional R290, depending on the application					
ROOM TEMPERATURE PROBE	from +10°C to +32°C					
ELECTRIC POWER (W)	950	1200	1800	1850	1950	2000
VOLTAGE / FREQUENCY (V/HZ)	230/50 optional 110/60 and 220/60					
WEIGHT (KG)	150	200	240	280	310	340

*Width x Depth x Height **Width x Height ***Width x Depth

RANGE	CLIMATIC TEST CHAMBERS					
ICH MODELS WITH HUMIDITY CONTROL	EICHS 943 HR ICH	EICHS 1503 HR ICH	EICHS 1853 HR ICH	EICHS 2203 HR ICH	EICHS 2803 HR ICH	EICHS 2903 HR ICH
ICH MODELS WITHOUT HUMIDITY CONTROL	EICHS 943 ICH	EICHS 1503 ICH	EICHS 1853 ICH	EICHS 2203 ICH	EICHS 2803 ICH	EICHS 2903 ICH
HORIZONTAL MODELS WITH HUMIDITY CONTROL	EICHS 942 HR / EICHS 945 HR	EICHS 1502 HR / EICHS 1505 HR	EICHS 1852 HR / EICHS 1855 HR	EICHS 2202 HR / EICHS 2205 HR	EICHS 2802 HR / EICHS 2805 HR	EICHS 2902 HR / EICHS 2905 HR
HORIZ. MODELS WITHOUT HUMIDITY CONTROL	EICHS 942 / EICHS 945	EICHS 1502 / EICHS 1505	EICHS 1852 / EICHS 1855	EICHS 2202 / EICHS 2205	EICHS 2802 / EICHS 2805	EICHS 2902 / EICHS 2905
TEMP. (°C) RANGE WITHOUT HUMIDITY CONTROL	+4/+60 (Optional: -10°C/-20°C/-30°C)					
TYPE OF CONTROLLER	ICH NANODAC controller in models finished in "3" / 4100 controller in models finished in "2" / 4500 controller in models finished in "5"					
MODELS WITH HUMIDITY CONTROL	from 20% to 90% HR					
TEMP. RANGE WITH CONTROLLED HUMIDITY (°C)	+19/+50	+19/+50	+19/+50	+19/+50	+19/+50	+19/+50
RATED CAPACITY NET/GROSS (liters)	925/1000	1225/1500	1500/1800	1795/2200	2560/2800	2590/2900
INTERIOR MEASUREMENTS [mm] W x D x H*	900 x 800 x 1350	1460 x 620 x 1350	1460 x 620 x 1650	1460 x 900 x 1370	1460 x 910 x 1650	2460 x 620 x 1650
EXTERIOR MEASUREMENTS [mm] W x D x H*	1150 x 960 x 1980	1700 x 790 x 1980	2000 x 790 x 1980	1690 x 1100 x 1980	2000 x 1090 x 1980	3000 x 790 x 1980
CLEAR OF DOOR [mm] W x H**	800 x 1100	600 x 1100	600 x 1400	600 x 1100	600 x 1400	600 x 1400
INSULATOR THICKNESS [mm]	60	60	60	60	60	60
INTERIOR FINISH	Stainless steel					
EXTERIOR FINISH	Epoxy covered steel					
N° OF INTERNAL GLASS DOORS	1	1	1	1 + 1	1 + 1	1 + 1 + 1
TYPE OF EXTERIOR DOOR	Blind	Blind	Blind	Blind	Blind	Blind
LOCK	Yes	Yes	Yes	Yes	Yes	Yes
NUMBER OF SHELVES	4	4	4 + 4	4 + 4	4 + 4	4 + 4 + 4
SIZE OF THE SHELVES [mm] W x D***	830 x 610	530 x 610	530 x 610	530 x 900	530 x 900	530 x 610
MATERIAL OF THE SHELVES	Stainless steel					
SHELVES SURFACE / CHAMBER'S TOTAL (m ²)	0,50/2,02	0,32/2,58	0,32/2,58	0,32/2,58	0,47/3,81	0,32/3,84
WALL BYPASS / CABLE GLAND	Yes	Yes	Yes	Yes	Yes	Yes
DATALOGGER	Yes	Yes	Yes	Yes	Yes	Yes
USB OUTPUT	Yes	Yes	Yes	Yes	Yes	Yes
SCREEN GRAPHICS	Yes	Yes	Yes	Yes	Yes	Yes
RS485 CONNECTION PORT WITH MODBUS	Yes	Yes	Yes	Yes	Yes	Yes
REMOTE ALARM EXIT FREE OF POTENTIAL	Yes	Yes	Yes	Yes	Yes	Yes
BATTERY	Yes	Yes	Yes	Yes	Yes	Yes
VOLTAGE FAILURE ALARM	Yes	Yes	Yes	Yes	Yes	Yes
ROOM TEMPERATURE PROBE	Optional	Optional	Optional	Optional	Optional	Optional
TYPE OF COOLING	R404a optional R290, depending on the application					
ROOM TEMPERATURE PROBE	from +10°C to +32°C					
ELECTRIC POWER (W)	2000	2200	2300	2500	2600	2700
VOLTAGE / FREQUENCY (V/HZ)	230/50 optional 110/60 and 220/60					
WEIGHT (KG)	360	380	390	420	480	490

*Width x Depth x Height **Width x Height ***Width x Depth



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Distributed by:

BLASCO DE GARAY, 57 LOCAL
E-28015 MADRID
TEL / FAX 00 34 91 544 92 62
equitec@equi-tec.eu
info@equi-tec.eu
www.equi-tec.eu

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LAF Technologies Pty Ltd

Melbourne: 12 Royan Place, Bayswater North, VIC 3153 | Ph: +61 3 9761 4284

Sydney: Level 14, 309 Kent Street, Sydney, NSW 2000 | Ph: +61 2 8221 8864

Brisbane: 1/25 Granite Street, Geebung, QLD 4034 | Ph: +61 7 3865 7003



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Call: 1300 306 002

www.laftech.com.au

