Lab equipment

Extensive environmental control

Heratherm Light Chambers

Thermo Scientific™ Heratherm™ Light Chamber, Cat. No. ELS750

Applications

- ICH stability testing with UV light
- UV light exposure
- Plant growth
- Animal hatching
- Light simulation testing

Benefits

- Accurate and even light distribution throughout chamber
- Long-lasting LED lighting
- Programmable range of light color and intensity across red, blue, and white color spectrums
- UV light available on ICH module
- Sustainable features
- Meets requirements for ICH Q1A (R2) and enables 21 CFR Part 11
- Programmable for restricted access
- Easy to program and operate
- Easy to maintain and move
- Extensive alert and alarm functions
- Choice of exterior solid door with interior glass door or exterior glass door
- 24-month warranty

The Heratherm Light Chamber offers high-performance light settings for specialized applications including ICH testing, animal hatching and plant growth. The chamber meets ICH stability testing guidelines for stability testing according to ICH Q1A (R2) - solid door unit only.

A broad relative humidity range covers many application needs including humidity levels below ambient. Peltier technology supports temperature stability while offering lower energy usage, compared to traditional compressors.

Choice of two light modules:

1. Module for plant growth / testing / animal hatching: Select light spectrum with individual control of red, blue and white LED
2. Module for ICH testing: includes white LED and UV LED for defined exposure for ICH light stability testing. Note that chamber recognizes module automatically; module cannot be used in unit with outer glass door; ICH light will switch off by default when door is opened.

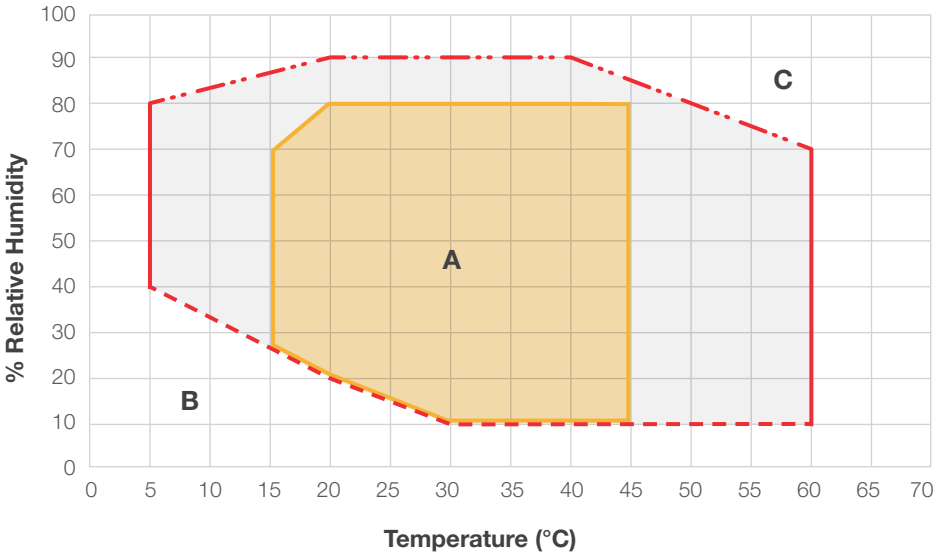
- Up to 3 modules can be used – only one type at a time!

The innovative humidification system with integrated water tank has a low water consumption, with no need for a drain. Very accurate relative humidity levels provide process reliability, the heated door is minimizing potential condensate in standard applications.

Achieve data traceability and sample protection when using the restricted access functions found through the touchscreen user interface. Data logging enables 21 CFR Part 11 and IQ/OQ qualification can be implemented with service package.

The internal chamber has rounded corners, removable shelves, and other components to help facilitate easy care maintenance.

Figure 1. Heratherm Light Chamber with temperature and RH control



Relative humidity — temperature
(Reference ambient condition: 22°C; <50% rel. humidity)

With activated LED light:
Temp: 15 – 45° C
RH: 10 – 80%

LED light boundaries
Area shows available range with activated LED light

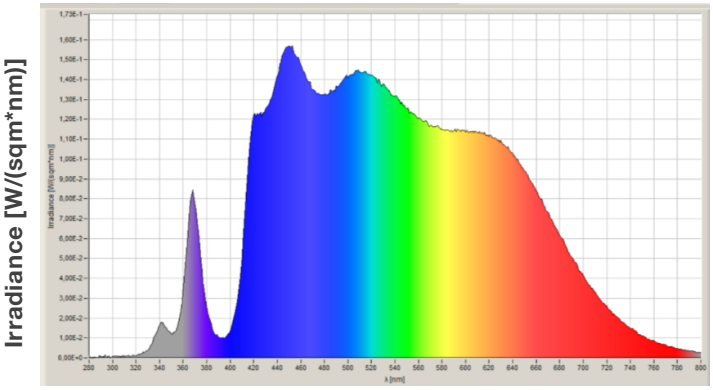
Maximum humidity, LED light off
(Condensate-free boundary line)

Minimum humidity, LED light off
(requires low ambient temperature & humidity)

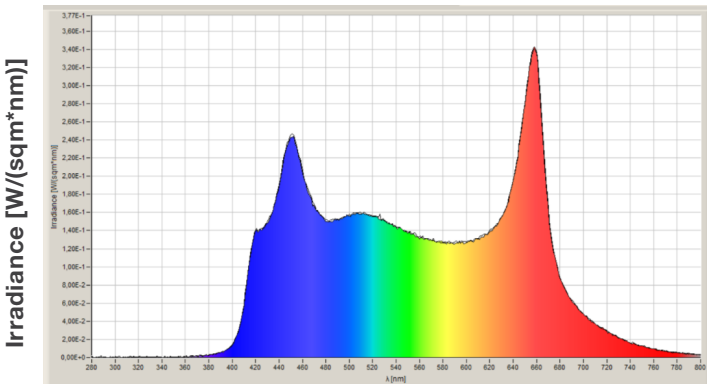
Area A:
Effective temperature and humidity range. (Condensate-free area)

Area B:
Very low temperature and humidity area. Reachable only if the ambient condition is significantly lower and the chamber samples are very dry

Area C:
Immediate condensation formation area at coldest point of unit



This graph shows the range of the light spectrum inside the Light Chamber when set with ICH light modules.



This graph shows the range of the light spectrum inside the Light Chamber when set up with plant growth light modules.

Specifications for Heratherm Light Chambers

Specification	Description
Models	**Cat. No.**
Solid door with inner glass door	ELS750
Exterior glass door	ELG750
Overview	
Chamber size	750 L / 26.5 cu. ft.
Controller	Microprocessor, PID - temperature, relative humidity (RH), with programmability
User interface	7-in. display with capacitive touchscreen
Temperature	
Temperature range	0 to 70 °C with light off /15 to 45 °C with activated LED light
Temperature range with humidity	0 to 70 °C (see chart for details)
Temperature increments	0.1 °C
Peltier cooling / heating capacity	ΔT ≥ 25 °C / ΔT ≥11 °C with activated LED light
Temp. uniformity at 20°C / 40°C	≤ ±2.0°C / ≤ ±2.0°C - both with activated LED light
Temp. stability at 20°C to 37°C	≤ ±0.3 °C with activated LED light
Heat up time to 22°C to 45°C	≤ 130 min with activated LED light
Cool down time 22°C to 15°C	≤ 170 min with activated LED light
Recovery time 15°C / 30°C	≤ 25 min / ≤ 10 min - both with activated LED light
Humidity	
Humidity range at 37°C	10 - 90% RH without light / 10 - 80% RH with light (see figure 1 for temperature details)
Humidity increments	0.1% RH
Humidity stability	≤ ±4% RH with activated LED light
Water consumption	≤ 1.3 L per day*
Water specification	Demineralized water, resistance = 0.05 - 1 MΩ
Water supply	Water reservoir 5L
Light	
Number of light modules	1 to 3 (only one type at time!)
Choice of light modules	ICH**, plant growth/animal hatching/testing
Electrical	
Voltage, power	100 - 240 V, 50/60 Hz, 1400 W
Energy consumption	5 - 15 kWh per day with light off / 15 - 23 kWh per day with activated LED light*
Power plug	Standard plug, based on country: US (5-20 P), EU (Schuko), UK, CN, IN, AU, CH, JP***, DK****
Power cord length	2 m power cord
Shelving / load	
Shelves (std. / positions)	3 / 36
Shelf construction	Perforated stainless steel, Type 1.4301 / AISI 304
Shelf dimensions (w x d)	795 x 575 mm / 31.3 x 22.6 in.
Shelf surface area	0.46 m^2 / 4.9 ft^2
Max. load on shelf	15.9 kg / 35 lbs. (pulled out) / 30 kg / 66.1 lbs. (stationary)
Max. load on reinforced shelf	90 kg / 198.4 lbs. (stationary)
Max. total load	210 kg / 463 lbs.

Note: all values are measured according to DIN12880
* Value depends on settings, usage, number of light modules installed and environmental conditions
** Important note: ICH module can only be used with ELS750: for safety solid door required
*** For Japan: 200V connection required (100V is not possible for the light chambers)
**** Cord length of 2.5 m / 8.2 ft

Specifications for Heratherm Light Chambers

Specification	Description
Dimensions	
Internal dimensions (WxHxD)	840 x 1450 x 630 mm / 33.07 x 57.09 x 24.8 in.
Exterior dimensions (WxHxD)	1080 x 1835 x 895 mm / 42.52 x 72.24 x 35.24 in.
Shipping weight	ELS750: 391 kg / 862 lbs. ELG750: 382 kg / 842 lbs.
Installation space requirements	Back wall: 200 mm / 7.9 in. Side wall: 150 mm / 5.9 in. Ceiling: 570 mm / 22.5 in.
General information	
Connectivity	Back: USB, dry contact Front: USB
Access port - standard	2 - right and left side, inner diameter: 40 mm / 1.575 in.
Calibration certificate included	30 °C / 60 % RH (light off)
Certifications	UL, UKCA, CE
Light Modules	
Module for ICH stability testing - Cat.No. 333979G01 Includes white LED and UV LED	
Average light intensity	ca. 10000 lux
Average UVA irradiance (315 to 400 nm)	ca. 1.88 W/m²
Testing time for ICH Q1B	≤ 140 hours - to reach: 1200000 lux hours + 200 W hours / m²*)

Note: The ICH light module will switch off automatically when door is opened. The module is not functional in an ELG750 unit with exterior glass door and can only be used in an ELS750 unit with solid outer door. These are safety measures to protect the operator from the UV light.

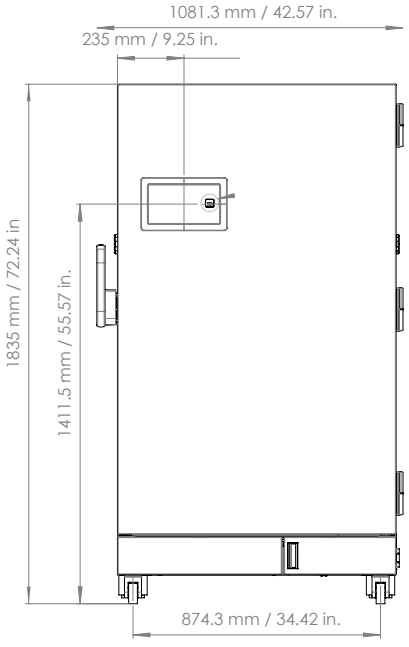
Module for plant growth / testing / animal hatching - Cat.No. 333980G01 Includes four channels – to cover light range for photosynthesis of 400 to 700nm: white, white, red and blue LED	
Average illumination on shelf at 25 °C	ca. 10000 lux
Average irradiance between wave length of 400 to 700 nm (per light module)	ca. 45 W/m² or ca. 209 µmol/(m² x s)*

*Based on 49 point measurement according to DIN5035-6:2006-11 "Lighting with artificial light", with distance between sample and light of 200 mm / 7.87 in.

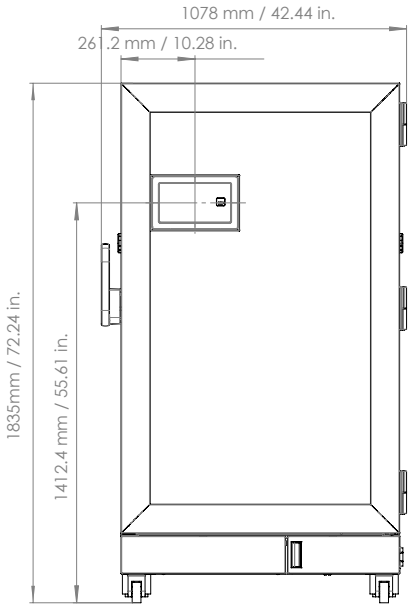
Notes:

- For both light modules, the intensity of LED can easily be changed and programmed by channel to address any specific light requirements.
- Any listed values are based on maximum intensity, and stated distance of 200 mm / 7.87 in. The values can be adapted in the user interface by reducing the intensity of one or more channels.
- Up to 3 light modules can be used in one light chamber. All modules have to be the same at a time (either ICH or plant growth / testing / animal hatching). The chamber will recognize number and type of module automatically and will provide settings in user interface accordingly.

Front view

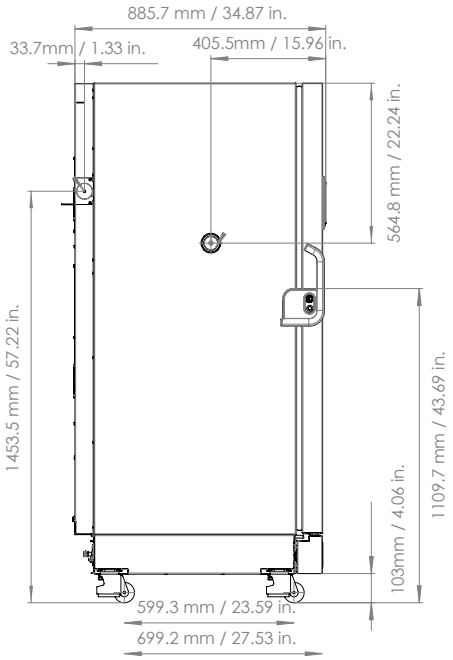


Front view with ext. glass door

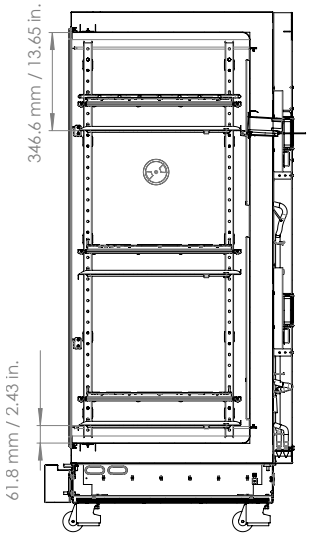


Front view with ext. solid door

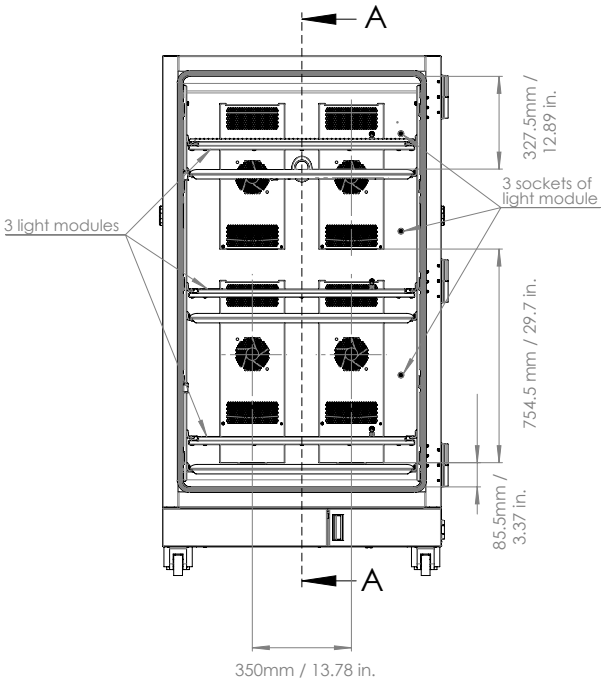
Side view - exterior



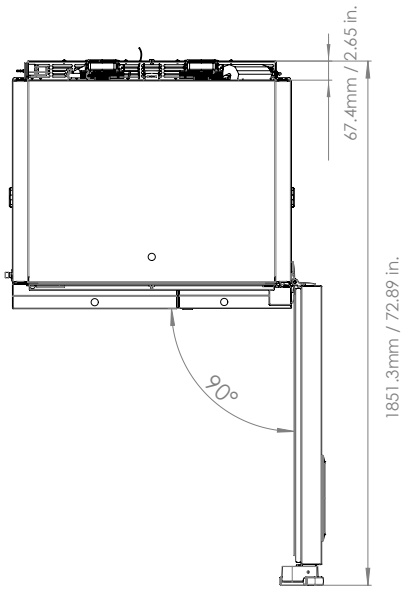
Side view - interior



Front view - interior with light modules



Top view



System with door opened at 90°

Learn more at **thermofisher.com/chambers**