

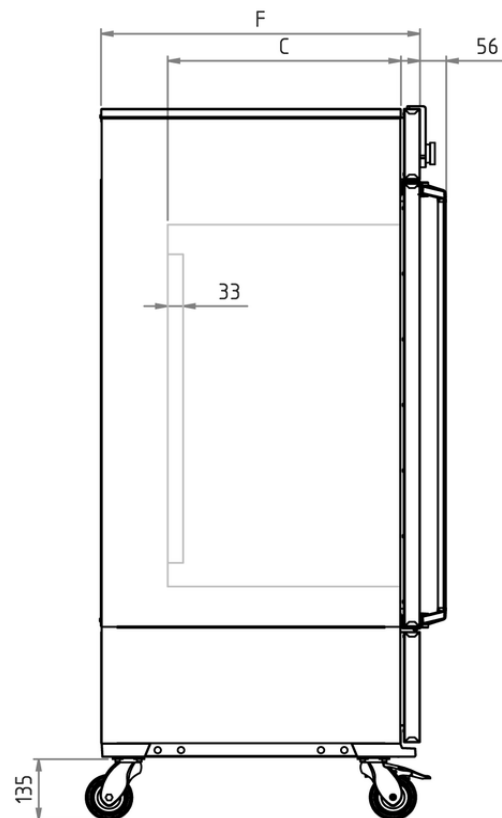
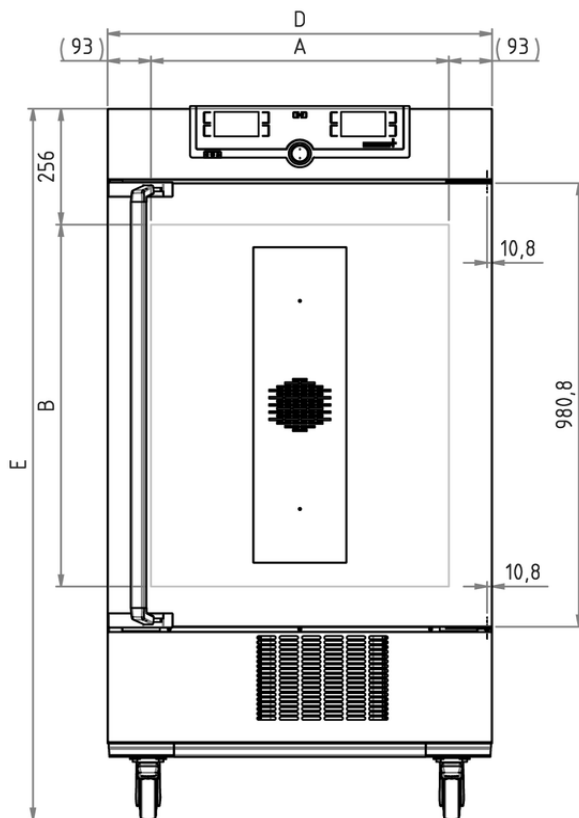
## Climate Chamber

### ICH110eco L

Unparalleled homogeneity of temperature and humidity! For stability testing according to ICH - WHO - EMA - ASEAN - GMP - GLP – GCCP.



On this page, you can find all the essential technical data on the Memmert climate chamber ICHeco. Our customer relations team will be pleased to help if you want further information. If you should require a customised special solution, please contact our technical specialists at [myAtmoSAFE@memmert.com](mailto:myAtmoSAFE@memmert.com).



## Temperature

<b>Working temperature range</b>	without humidity: 0 to +60 °C
<b>Setting temperature range</b>	0 to +60 °C
<b>Working temperature range</b>	from +10°C up to +60°C with humidity and/or light
<b>Setting accuracy temperature</b>	0.1 °C
<b>Temperature sensor</b>	2 Pt100 sensors DIN Class A in 4-wire-circuit for mutual monitoring, taking over functions in case of an error

## Humidity

<b>Humidity</b>	humidity supply with distilled water from external tank by self-priming pump
<b>Humidification</b>	humidification by hot steam generator
<b>Humidity</b>	active humidifying and de-humidifying adjustable from 10-80 % rh with digital display of relative humidity - resolution of display 0.1 %, setting accuracy 0.5 %

## Control of standard components

<b>Light</b>	illumination unit consisting of 3 fluorescent lights with cold white light (standard illuminant D65, 6.500K) and 2 UV-lamps in the spectral range of 320-400 nm
<b>Light</b>	daylight and UV-light can be programmed individually via controller
<b>Light</b>	cold white light +/- 6 %, for UV-light +/- 10 %

## Control technology

<b>ControlCOCKPIT</b>	TwinDISPLAY. Adaptive multifunctional digital PID-microprocessor controller with 2 high-definition TFT-colour displays.
<b>Language setting</b>	German, English, Spanish, French, Polish, Czech, Hungarian
<b>Timer</b>	Digital backwards counter with target time setting, adjustable from 1 minute to 99 days
<b>Function SetpointWAIT</b>	the process time does not start until the set temperature is reached
<b>Calibration</b>	three freely selectable values each, temperature/humidity/CO2
<b>adjustable parameters</b>	temperature (Celsius or Fahrenheit), fan speed, light, programme time, time zones, summertime/wintertime

## Ventilation

<b>Fan</b>	forced air circulation in working chamber adjustable from 10 to 100 % in 10 % steps
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## Communication

<b>Documentation</b>	programme stored in case of power failure
<b>Programming</b>	AtmoCONTROL software on a USB stick for programming, managing and transferring programmes via Ethernet interface or USB port

## Safety

<b>Temperature control</b>	mechanical temperature limiter TB, protection class 1 according to DIN 12880 to switch off the heating approx. 10°C above nominal temperature
<b>Temperature control</b>	over- and undertemperature monitor TWW, protection class 3.3 or adjustable temperature limiter TWB, protection class 2, selectable on display
<b>AutoSAFETY</b>	additionally integrated over- and undertemperature protection "ASF", automatically following the setpoint value at a preset tolerance range, alarm in case of over- or undertemperature, heating is switched off in case of overtemperature, compressor in case of undertemperature
<b>Autodiagnostic system</b>	integral fault diagnostics for temperature and humidity control
<b>Alarm</b>	visual and acoustic

## Heating concept

<b>Cooling</b>	Cooling compressor with climate-neutral refrigerant CO2 (R744), GWP1
<b>Air jacket</b>	air jacket heating system for gentle all-around heating
<b>Heating concept</b>	no drying-up of the load caused by the cooling device due to separation of thermal jacket from interior
<b>Defrosting</b>	highly efficient automatic defrosting system

## Standard equipment

<b>Entry port</b>	Entry port (silicone), 40 mm clear diameter, moisture tight, can be closed by a silicone stopper, standard position at the back
<b>Door</b>	fully insulated stainless steel door with 2-point locking (compression door lock)
<b>Internals</b>	2 stainless steel grid(s), electropolished
<b>Works calibration certificate</b>	standard values +10 °C and +37 °C, 60 % rh at +30 °C
<b>Door</b>	inner glass door

## Stainless steel interior

<b>Dimensions</b>	$w_{(A)} \times h_{(B)} \times d_{(C)}$ : 560 x 480 x 400 mm (d less 33 mm for fan)
<b>Volume</b>	108 l
<b>Max. number of internals</b>	5
<b>Max. loading of chamber</b>	150 kg
<b>Max. loading per internal</b>	20 kg

## Textured stainless steel casing

<b>Dimensions</b>	$w_{(D)} \times h_{(E)} \times d_{(F)}$ : 745 x 1233 x 585 mm (d +56mm door handle)
<b>Installation</b>	on lockable castors
<b>Housing</b>	rear zinc-plated steel

## Electrical data

<b>Voltage</b>	230 V, 50 Hz
<b>Electrical load</b>	approx. 1350 W

## Ambient conditions

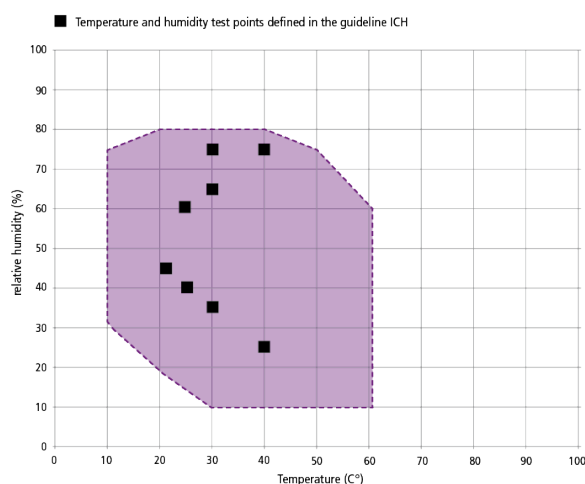
<b>Set Up</b>	The distance between the wall and the rear of the appliance must be at least 15 cm. The clearance from the ceiling must not be less than 20 cm and the side clearance from walls or nearby appliances must not be less than 5 cm.
<b>Ambient temperature</b>	15 °C to 28 °C (up to 34 °C with limited temperaturerange)
<b>Humidity rh</b>	max. 70 %, non-condensing
<b>Altitude of installation</b>	max. 2,000 m above sea level
<b>Overvoltage category</b>	II
<b>Pollution degree</b>	2

## Packing/shipping data

<b>Transport information</b>	The appliances must be transported upright
<b>Customs tariff number</b>	8419 8998
<b>Country of origin</b>	Federal Republic of Germany
<b>WEEE-Reg.-No.</b>	DE 66812464
<b>Dimensions approx incl. carton</b>	w x h x d: 880 x 1410 x 810 mm
<b>Net weight</b>	approx. 114 kg
<b>Gross weight carton</b>	approx. 142 kg

## Temperature-humidity working range ICHeco

Not all climate chambers are the same. The humidity content of the chamber load, the ambient conditions and the respective temperature-humidity working range are decisive factors in the selection of the right appliance. In the adjacent diagram, you can see the possible temperature/humidity combinations for our climate chamber ICHeco. Within the respective temperature-humidity range, condensation-free permanent operation is possible. To which extent condensation may occur in the threshold range depends on the humidity content of the chamber load and the ambient conditions.



Temperature-humidity working range ICHeco/ICH

**Standard units are safety-approved and bear the test marks**

