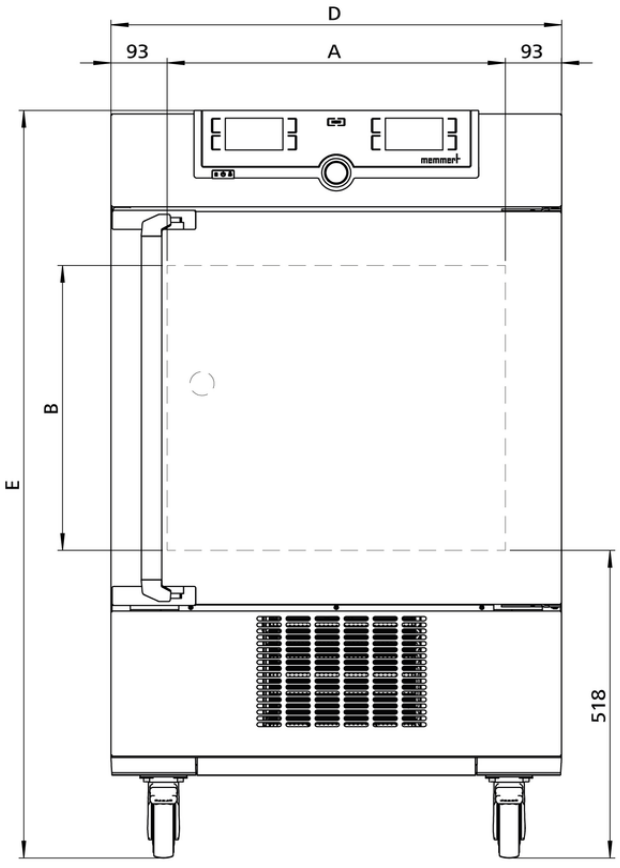
Climate chamber

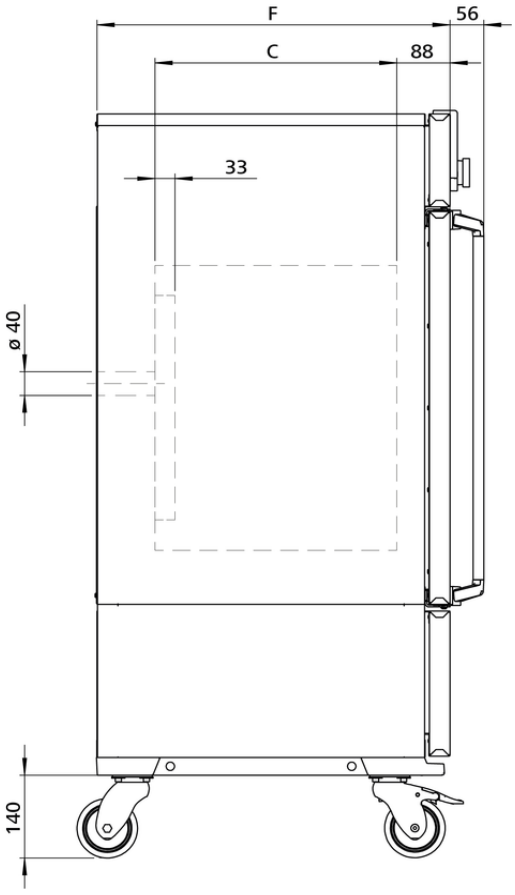
ICH110eco

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 sales@memmert.com.





Temperature

Setting temperature range	-10 to +60 °C
Working temperature range	from -10°C up to +60°C without humidity(not suitable for long-term storing at sub-zero temperatures. During permanent operation, the glass door may ice over)
Working temperature range	from +10°C up to +60°C with humidity and/or light
Setting accuracy temperature	0.1 °C
Temperature sensor	2 Pt100 sensors DIN Class A in 4-wire-circuit for mutual monitoring, taking over functions in case of an error

Humidity

Humidity	humidity supply with distilled water from external tank by self-priming pump
Humidification	humidification by hot steam generator
Humidity	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 technology

ControlCOCKPIT	TwinDISPLAY. Adaptive multifunctional digital PID-microprocessor controller with 2 high-definition TFT-colour displays.
adjustable parameters	temperature (Celsius or Fahrenheit), fan speed, relative humidity, programme time, time zones, summertime/wintertime
Language setting	German, English, Spanish, French, Polish, Czech, Hungarian
Timer	Digital backwards counter with target time setting, adjustable from 1 minute to 99 days
Function SetpointWAIT	the process time does not start until the set temperature is reached
Calibration	three freely selectable values each, temperature/humidity/CO_2

Ventilation

Fan	forced air circulation in working chamber adjustable from 10 to 100 % in 10 % steps

Communication

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

Safety

Temperature control	mechanical temperature limiter TB, protection class 1 according to DIN 12880 to switch off the heating approx. 10°C above nominal temperature
Temperature control	over- and undertemperature monitor TWW, protection class 3.3 or adjustable temperature limiter TWB, protection class 2, selectable on display
AutoSAFETY	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
Autodiagnostic system	integral fault diagnostics for temperature and humidity control
Alarm	visual and acoustic

Heating concept

Cooling	Cooling compressor with climate-friendly refrigerant CO_2 (R744), GWP1
Air jacket	air jacket heating system for gentle all-around heating
Heating concept	no drying-up of the load caused by the cooling device due to separation of thermal jacket from interior
Defrosting	highly efficient automatic defrosting system

Standard equipment

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

Stainless steel interior

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

Textured stainless steel casing

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

Electrical data

Voltage	230 V, 50 Hz
Electrical load	approx. 1350 W

Ambient conditions

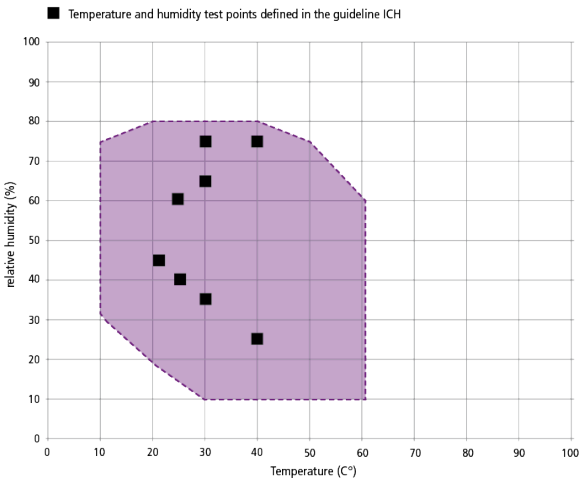
Set Up	The distance between the wall and the rear of the appliance must be at least 15 cm. The clearance from the ceiling must not be less than 20 cm and the side clearance from walls or nearby appliances must not be less than 5 cm.
Ambient temperature	15 °C to 28 °C (up to 34 °C with limited temperaturerange)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

Packing/shipping data

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