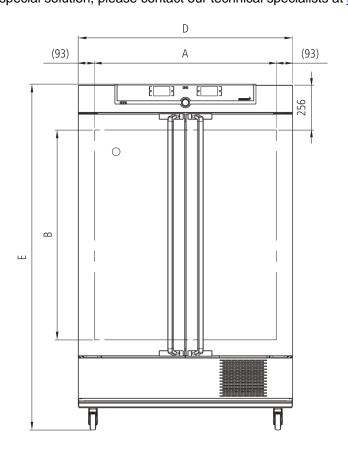
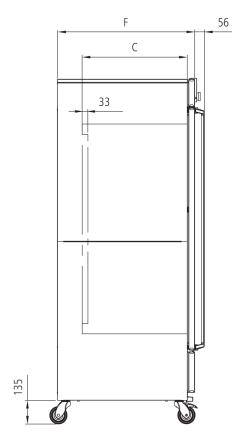
# Climate Chamber

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 <u>myAtmoSAFE@memmert.com</u>.









## Temperature

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	
Setting accuracy temperature	0.1 °C	
Temperature	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, for two freely selectable values CO2	

## 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

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	
Cooling	energy-saving use of CFC-free cooling/heating system (refrigerant R134a)	
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	
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 doors	
Door	fully insulated stainless steel doors with 2-point locking (compression door lock)	

#### **Stainless steel interior**

Volume	749
Dimensions	w <sub>(A)</sub> x h <sub>(B)</sub> x d <sub>(C)</sub> : 1040 x 1200 x 600 mm
Max. number of internals	14
Max. loading of chamber	200 kg
Max. loading per internal	30 kg

## Textured stainless steel casing

Installation	on lockable castors
Dimensions	w <sub>(D)</sub> x h <sub>(E)</sub> x d <sub>(F)</sub> : 1224 x 1950 x 785 mm
Housing	rear zinc-plated steel

#### **Electrical data**

Voltage Electrical load	230 V, 50/60 Hz approx. 1350 W	
Voltage Electrical load	115 V, 50/60 Hz 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

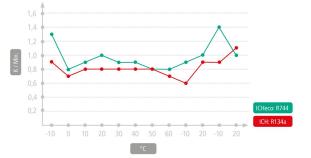
Transport information	The appliances must be transported upright
Customs tariff number	8419 8998
Country of origin	Federal Republic of Germany
WEEE-RegNo.	DE 66812464
Dimensions approx incl. carton	w x h x d: 1330 x 2150 x 1050 cm
Net weight	approx. 249 kg
Gross weight carton	approx. 319 kg

#### Packing/shipping data

# Climate-neutral refrigerant $\rm CO_2$ ensures better

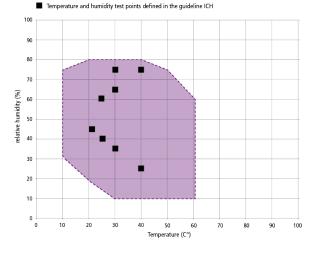
#### cooling performance

The climate chamber ICHeco is virtually maintenance-free, extremely powerful and environmentally-friendly. Compared to appliances with refrigerant R134a, it scores with faster change speeds during cooling. For a transition period, the Memmert climate chambers ICH / ICH L / ICH C with refrigerant R134a will be available in parallel. Average time to change temperature ICHeco/ICH



#### 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