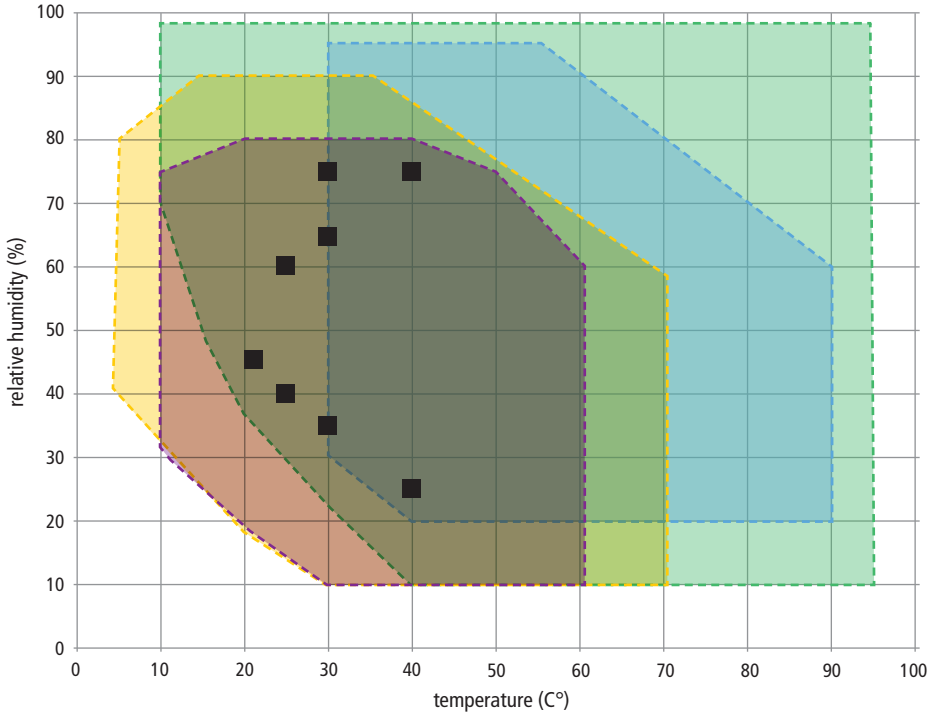
Decision aid for products with humidity control

memmert
Experts in Thermostatics

1 Definition of the application (refer to page 2)

2 Combination of temperature and humidity



Explanation of diagram: 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.

■ Climate testing points according to ICH guidelines.

ICH HCP
HPP CTC

Customer-required temperature-humidity combination:

No.	°C	% rh
1		
2		
3		
4		
5		

The customer-required temperature-humidity combinations apply most likely to the working range of

HPP
HCP
CTC
ICH

3 Model selection

Model size in litres (= dm³)	ICH	HPP	HCP	CTC
108	ICH 110	HPP 110	HCP 108	
153			HCP 153	
246			HCP 246	
256	ICH 260	HPP 260		CTC 256
749	ICH 750	HPP 750		
Temp. with hum.	+10 to +60 °C	0 to +70 °C	8 a.t.[1] to +90 °C	+10 to +95 °C
Temp. w/o hum.	-10 to +60 °C	0[2] to +70 °C	8 a.t.[1] to +160 °C	-42 to +190 °C
Humidity range	10 to 80 % rh	10 to 90 % rh	20 to 95 % rh	10 to 98 % rh
Ambient conditions	15 to 28 °C, 70 % rh max	16 to 28 °C, 70 % rh max	5 to 35 °C, 80 % rh	../..

[1] above ambient temperature | [2] max. 25 °C below ambient temperature

Customer-required chamber volumes in litres:

This corresponds to:
HPP
HCP
CTC
ICH

Chamber load and humidity content for specific customer application:

4 Other requirements, e. g. standards

5 Important notes concerning working ranges

If the temperature-humidity values exceed the specific limits (working range), the superheated steam introduced will immediately condense at the coldest point in the appliance, due to the dew point.

If the temperature-humidity values fall below the specific limits (working range), the effective range is heavily dependent on the humidity content of the chamber load.

The higher the humidity content of the chamber load, the more steam is generated inside the chamber. This may influence the maintenance of the constant humidity. Some applications can be implemented with compressed air drying (on request). To support you in choosing the right appliance, the Memmert TechLab MPTC is always available for tests under realistic conditions.

Notes:

memmert
Experts in Thermostatics

Application examples

ICH

HPP

HCP

CTC

Notes: