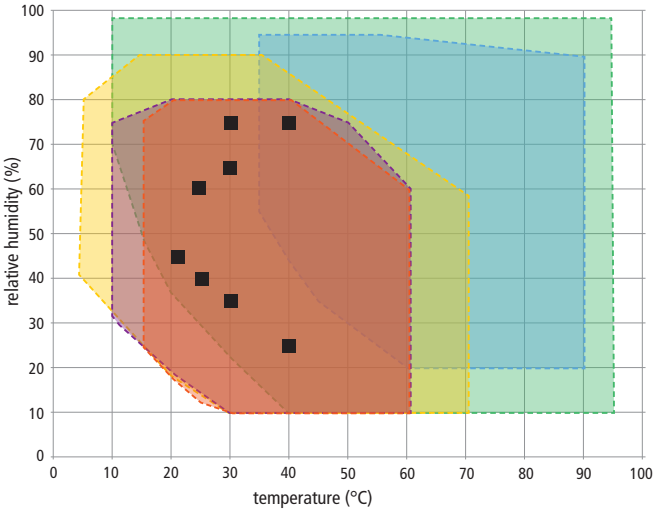
# Decision aid for products with humidity control

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

ICHeco/ICH
HPP110-HPP1060
HPP1400/2200
HCP
CTC

Customer-required temperature-humidity combination:

| No. | °C | % rh |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |

## 3 Model selection

| Model size in litres (= dm³) | ICHeco/ICH | HPP | | HCP | CTC |
|---|---|---|---|---|---|
| 56 | | | | HCP50 | |
| 107 | | | | HCP105 | |
| 108 | ICH110 | HPP110 | | | |
| 156 | | | | HCP150 | |
| 241 | | | | HCP240 | |
| 256 | ICH260eco/ ICH260 | HPP260 | | | CTC256 |
| 384 | | HPP400 | | | |
| 749 | ICH750eco/ ICH750 | HPP750 | | | |
| 1060 | | HPP1060 | | | |
| 1360 | | | HPP1400 | | |
| 2140 | | | HPP2200 | | |
| Temp. with hum. | +10 to +60 °C | 5[2] to +70 °C | 15[3] to +60 °C | 7[1] to +90 °C | +10 to +95 °C |
| Temp. w/o hum. | -10 to +60 °C | 0[2] to +70 °C | 15[3] to +60 °C | 7[1] to +90 °C | -42 to +190 °C |
| Humidity range | 10 to 80 % rh | 10 to 90 % rh | 10 to 80 % rh | 20 to 95 % rh | 10 to 98 % rh |
| Ambient conditions | +19 to +25 °C, max. 50 % rh according to Memmert works standard | | | | |

[1] above ambient temperature | [2] at least 20 °C below ambient temperature | [3] at least 10 °C below ambient temperature

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

HPP
HCP
CTC
ICHeco/ICH

Customer-required chamber volumes in litres:

This corresponds to:

HPP
HCP
CTC
ICHeco/ICH

## 4 Other requirements, e. g. standards

Chamber load and humidity content for specific customer application:

## 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. If you need constant stable operation at the edges or the chamber load is very humid, we recommend dehumidifying with compressed air. We also have other technical solutions for special needs that guarantee stable operation. Send us your inquiry!

To support you in choosing the right appliance, the Memmert TechLab MPTC is always available for tests under realistic conditions. Your customer service representative will gladly establish contact.

Notes:

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Application examples

ICHeco/ICH

HPP

HCP

CTC

Notes: