

Liebherr laboratory freezer LGex 3410

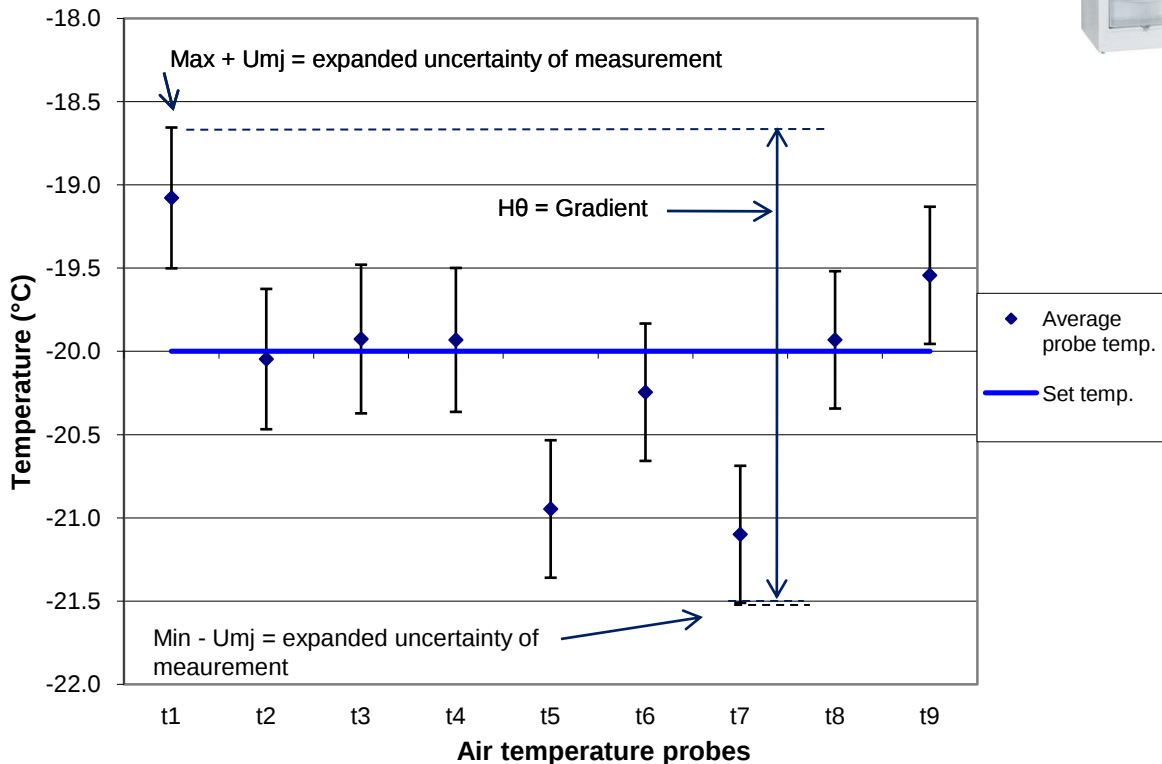
Test procedure NF X15-140:
Evaluation of air temperatures

Gradient Hθ: 2.9K (+1.4K / -1.5K from set temperature)

Max. fluctuation: 0.40K



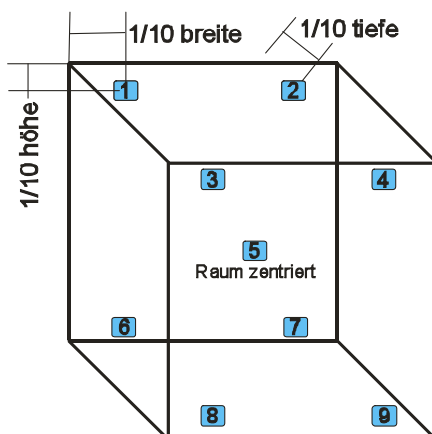
Average temperatures with expanded uncertainty of measurement per probe



- **Gradient** (Homogeneity) distribution of temperatures within the chamber

$$H\theta = \max(\theta_{mj} + U_{mj}) - \min(\theta_{mj} + U_{mj})$$

- max = (mean value warmest probe + standard deviation + measurement uncertainty)
- min = (mean value coldest probe - standard deviation - measurement uncertainty)



Positions of probes
according to NF X15-140

- 9 measurements with air-temperature PT100 probes
- 8 probes in the corners of the “working space”, 1/10 of the internal dimension away from the chamber walls & 1 in the centre of the working space