

Technical Information

Calculation of the heater resistance at 0 °C (Platinum heater)

$$R_{H0} = \frac{R_t}{1 + A \cdot t + B \cdot t^2}$$

Whereby:

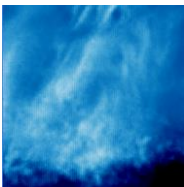
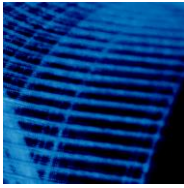
R_{H0} ... Heater resistance at 0 °C

R_t ... Heater resistance at ambient temperature t

t... Ambient temperature

A... Linear coefficient $A = 3,9083 \times 10^{-3} \text{ °C}^{-1}$

B... Quadratic coefficient $B = -5,775 \times 10^{-7} \text{ °C}^{-2}$



Calculation of the operating/heater temperature (Platinum heater)

$$t_H = - \left[\frac{A}{2 \cdot B} + \sqrt{\frac{A^2}{4 \cdot B^2} - \frac{R_{H0} - R_H}{R_{H0} \cdot B}} \right]$$

Whereby:

t_H ... Heater temperature

R_{H0} ... Heater resistance at 0 °C

R_H ... Heater resistance at temperature t_H

A... Linear coefficient $A = 3,9083 \times 10^{-3} \text{ °C}^{-1}$

B... Quadratic coefficient $B = -5,775 \times 10^{-7} \text{ °C}^{-2}$