Hukseflux
Thermal Sensors

Use of FHF02 in process control

Heat flux sensors used in process control of heating, cooling and drying processes

Processes like heating, cooling and drying are traditionally controlled via temperature measurement. Measuring heat flux may help to reduce processing times and improve quality control.

Areas of application

- freeze drying
- specimen heating

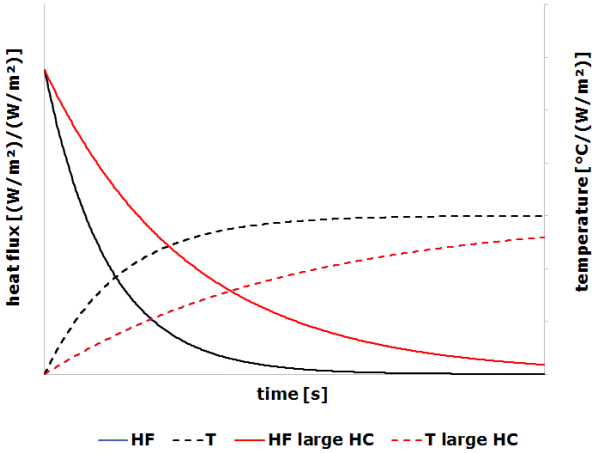

Figure 1 *comparison of heat flux and temperature to a large (red lines) and small (black lines) specimen*

Figure 2 *example of an FHF02SC installation*

Introduction

Heating and cooling processes are traditionally controlled measuring the temperature of the ambient air fluid transferring heat. The time needed for heating is determined empirically. Measurement of the heat flux may offer an alternative. Monitoring the heat flux, you may estimate the total energy transfer, and directly verify that the process has been completed.

Why FHF02?

FHF02 heat flux sensor is our standard model for measuring heat flux from conduction, radiation and convection:

- proven performance to -80 °C
- known temperature dependence from + 100 °C to -80 °C to reduce errors

Typical approach

- make a representative specimen or a "dummy specimen" (of similar dimensions, having a similar heat capacity)
- attach the heat flux sensor to the specimen
- measure at a representative location
- correct for differences in heat transfer coefficient or heat capacity

About Hukseflux

Hukseflux Thermal Sensors offers measurement solutions for the most challenging applications. Our main area of expertise is measurement of heat transfer and thermal quantities such as solar radiation, heat flux and thermal conductivity. Hukseflux is ISO 9001 certified. Hukseflux sensors, systems and services are offered worldwide via our office in Delft, the Netherlands and local distributors.

Interested in this product?
E-mail us at: info@hukseflux.com