Hukseflux
Thermal Sensors

Hukseflux instruments in building physics

About our sensors, measuring systems and testing services

Hukseflux provides a range of sensors and measuring systems for use in measurement of the energy budget of buildings and characterisation of construction materials. HFP01 heat flux sensor and TRSYS01 measuring system are widely used for on-site measurements on walls, windows and other construction elements. TPSYS02 is used to characterise soils, cements and insulation materials. Our pyranometers are used to measure solar radiation on buildings and to measure solar transmission of windows and solar reflectance of roofs.

Introduction

Hukseflux is a leading manufacturer of heat flux sensors, radiometers and a range of thermal conductivity measuring systems. Products made by Hukseflux play a vital role in various applications related to building physics.

Heat flux sensors

HFP01 is the world's most popular sensor for heat flux measurement in the soil as well as through walls and building envelopes. HFP01 measures heat flux through the object in which it is incorporated or on which it is mounted, in W/m^2. HFP01 can be used for in-situ measurement of building envelope thermal resistance (R-value) and thermal transmittance (H-value) according to ISO 9869, ASTM C1046 and ASTM 1155 standards. More information? Visit the HFP01 product page.

Figure 2 *HFP01, world's most popular heat flux plate*

Thermal resistance measuring system

TRSYS01 is a measuring system for analysis of the thermal resistance and the thermal transmittance of building elements by in-situ measurement. TRSYS is used for measurements according to ISO 9869 and ASTM C1155 / C1046 standards. The system is equipped with high accuracy electronics, two HFP01 heat flux sensors as well as two pairs of matched thermocouples. Would you like more information? See TRSYS01.

Figure 1 *TRSYS01, complete system including two HFP01 heat flux sensors and 4 matched thermocouples*

Figure 3 *HFP01 in use: on-site measurement of the building envelope thermal resistance*

Pyranometers: solar radiation, solar reflectance and solar transmission

Pyranometers measure the solar radiation received by a plane surface from a 180 ° field of view angle. This quantity, expressed in W/m^2 , is called "hemispherical" solar radiation.

Figure 4 *SR05 spectrally flat Class C pyranometer*

Pyranometers such as model SR05 are used for measurement of the solar exposure of buildings (sometimes multiple sensors aligned with walls and roof). They can also be used to measure solar reflectance by separate measurement of incoming and reflected radiation, for instance according to ASTM C1549 - 09 or ASTM E1918 - 06. By performing a measurement in front of and behind an object such as a window, the solar transmittance may be determined according to ASTM E1084 - 86(2009). See our complete range of pyranometers.

Material testing: TPSYS02

TPSYS02 is a turn-key system for the measurement of thermal conductivity using TP02 or TP08 thermal needles.

Figure 5 *TP08 thermal needle for material testing*

TPSYS02 system is designed for high accuracy measurements. It is mostly applied in soils. Less common applications include: analysis of walls and building envelopes, soil dryout experiments, snow, frozen soils. Interested? View TPSYS02.

Testing services

At Hukseflux we also provide testing services: "Standard" measurements are performed in our thermal properties laboratory on specimens supplied by customers. Common materials are plastics, paints, composites, pastes, powders, fluids, foodstuff and insulation materials. More information? Please look at our specimen requirements and fill in our request form.

Figure 6 *TPSYS02 in use in the Hukseflux laboratory*

About Hukseflux

Hukseflux Thermal Sensors makes sensors and measuring systems. We also provide services: calibration and material characterisation. 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 products and services are offered worldwide via our office in Delft, the Netherlands and local distributors.

Would you like more information?
E-mail us at: info@hukseflux.com