



Figure 1 NF02 is used for high temperature applications up to 450 degrees C.  
(1) heat flux sensor & thermocouple location  
(4) metal sheathed cable  
(2) spring loaded bolt (MF10X1)  
(3) Teflon cable  
All dimensions are in mm.

#### MORE INFORMATION / OPTIONS

*Alternative designs:* Hukseflux is specialised in heat flux sensor design. For different applications special models can be constructed.

*Optional:* NF02 can be made in different diameters and lengths. See model NF01 for larger versions of NF01. Extended temperature to 700 °C. (no spring)  
See NAM01 and AC100 amplifiers for amplification.

## NF02

### MINIATURE NEEDLE TYPE HEAT FLUX AND TEMPERATURE SENSOR

The NF02 miniature needle type heat flux and temperature sensor is used to perform continuous measurement of temperature and heat fluxes. It is the small version of NF01.

#### INTRODUCTION

The NF02 has been designed for studies of the energy balance of industrial installations, in particular steel and iron walls and moulds.

The main component, the actual sensor, is incorporated in a fully stainless steel needle.

This sensor can withstand temperatures up to 700 degrees C.

The extension cables are made of metal (first part) and Teflon (second part).

Sensor output consists of a heat flux signal (microvolt analog signal) and type K thermocouple. NF sensors can be manufactured in such a way that they are fully exchangeable, which is easy for servicing. Also the exact depth of insertion is not critical, which saves installation time.

#### SUGGESTED USE

- Studies of energy balance of industrial processes

#### NF02 SPECIFICATIONS

Sensitivity (nominal):	depends on exact design
Temperature dependence:	depends on exact design
Working range (typical):	0.05 to 50 kW.m <sup>-2</sup>
Temperature range (sensor, metal sheathed cable, spring loaded bolt):	-55 to +450 °C
Temperature range (Teflon cable):	-55 to +260 °C
Heat flux output signal:	analog microvolts
Temperature output signal:	thermocouple type K
Power requirements:	no power required
Optional:	sensor length and diameter, extended cable, cables with alternative colour codes, extended temperature to 700 °C
Protection sensor/coupling/cable:	IP 65 / 64 / 64
CE certification :	NF02 is CE certified
Ordering code:	NF02/L1/L2/L3 L1 to L3 in mm
Standard:	NF02/30/100/2500
Temperature sensor:	Thermocouple K, ANSI MC96.1-1982