DATA SHEET

Radiator Probe

PRODUCT NAME

Radiator Probe

PRODUCT CODE

S_KPS_qxpkjf
S_KPS_bujh36

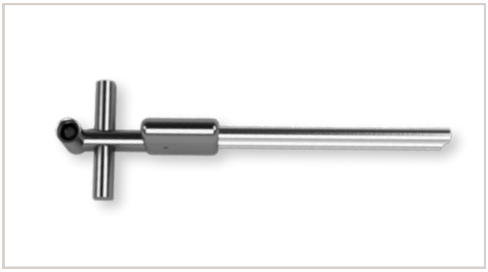

Fig. 1 *Standard configuration 1 of radiator probe (S_KPS_qxpkjf)*

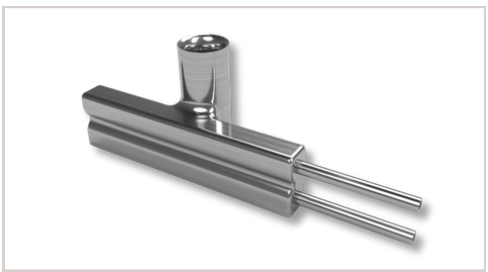

Fig. 2 *Standard configuration 2 of radiator probe (S_KPS_bujh36)*

DESCRIPTION

Total pressure and mass flow measurement

Vectoflow's radiator probes are specifically designed to measure total pressure and mass flow distribution through a radiator. The probe simultaneously captures total pressure and a reference static pressure of the flow. By placing multiple probes across the radiator, it is possible to measure the partial mass flow in each section, allowing for an evaluation of flow uniformity.

Designed for ease of use, the probe can be mounted directly onto the radiator and precisely positioned in front of the cooling tubes, minimizing blockage effects and ensuring low flow disturbance. This approach ensures the radiator remains largely unmodified and undamaged, allowing the probe to be easily removed and reused.

GENERAL PROPERTIES

Probe configuration	Two standard configurations, see Figure 1 & 2
Number of pressure ports	1 (2 incl. static pressure)
Probe tip diameter	1.6 … 5 mm
Probe head shape	Kiel
Material	Stainless steel
Connections	Standard 1 mm

ENVIRONMENTAL CONDITIONS

Operating temperature	Up to 230°C
Operating medium	Air and other non-corrosive gases
Humidity	0 … 95%, non-condensing

MEASUREMENT RANGE

Angular range	±30°
Angular accuracy	< ±1°

DESIGN

The Vectoflow radiator probe comes in two standard designs which are shown in Figure 1 and 2. The radiator probe is produced by additive manufacturing and features a robust, one-piece design. Additive manufacturing allows great flexibility in design, size, and material choice, so that the probe design can be customized to individual requirements. Please contact us to inquire about custom solutions for your application.

The probe head is of a Kiel type to ensure the best possible measurement of the total pressure in a wide range (up to ±30°) of incident flow angles of attack.

Radiator probes may be mounted frontally (Figure 3) or from behind (Figure 4). Mounting from behind is recommended to accurately determine the mass flow when there is a high incidence flow through the radiator.

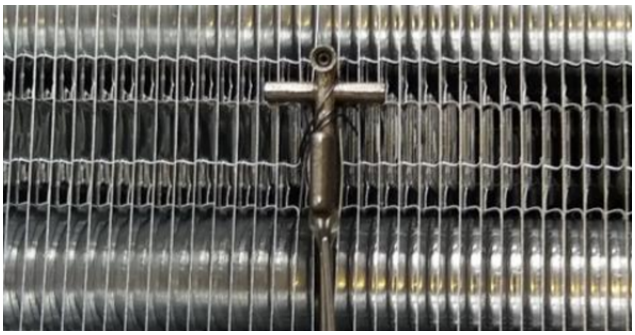

Fig. 3 Frontal mount of probe (S_KPS_qxpkjf) on radiator

Fig. 4 Probe (S_KPS_bujh36) mounted on radiator from behind

CALIBRATION

For highly accurate mass flow measurements, the probes must be calibrated with respect to the mass flow while mounted on the radiator. Please get in touch for further details on probe calibration at Vectoflow.