CVT VALORISATION SUD

Engineering
Method for self-calibration of anemometers

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Technology's description

This innovation consists in a measurement process specifically designed to self-calibrate most of the existing anemometers.

The differential speed of the probe is offering a self-calibration in a wide range of speeds, down to the lowest flow speeds (< 3 m/s). Depending on the considered sensor, this calibration procedure can run into a dynamic or a static mode, either with the probe translation, or the variation of the flux speed, or as well in a more classical static way.

This design provides the probes to be calibrated with unique performances: it is offering self-calibrations in a wide range of speeds, down to the lowest flow speeds (< 3 m/s). Besides, temperature and orientation angle of the flow can be self-calibrated at once. This is made possible thanks to the measurement of a great number of points (> 5000 Points), with taking into account the surrounding variations (temperature, pressure, ventilating drift).

These new capabilities provide the measurements with a high accuracy as well as a high precision and this makes it a robust technology for anemometers such as hot-wires, hot- bulbs, hot-films, pitot, ultrasonic, cups and so on.

Advantages

- **High performance**: precise & accurate sensors, regardless temperature variations, limitless range
- **Self-calibration :** a decreased calibration time, simultaneous speed & flux orientation for most of the probes & sensors
- **Mobility** (handheld) : field or process control
- **Research, R&D** (hot-wire anemometers): a fast calibration speed, with 3 velocity components.

Applications

In-situ, on-site, aeraulic networks, ventilation, filtration, AC, fluid transport, drying, process control, wind energy, aerodynamics, turbines.

Intellectual property

Patent

Development level

Technology validated in relevant environment

1 2 3 4 **5** 6 7 8 9

Technology transfer

- Co-development with license agreement
- Know-how.