

Training and new technology make in-house calibration interesting

Do it yourself or bring someone else in? The question has no obvious answer.

"It depends on what process is involved and what requirements there are for the temperature measurements," explains Jonas Bertilsson of Pentronic.

Pentronic offers both calibration services and equipment. In some industries there is an increasing trend to purchase calibration services from an outside source.

"In other industries, companies are instead building up their own calibration resources because they take a large number of measurements with high performance or verification requirements," Jonas says.

The necessary know-how

Twenty-five years ago, when ISO 9000 made its breakthrough, many companies chose to do their own calibration. In some cases the equipment remained unused, because calibration is long-term work that requires competent personnel. Pentronic's courses

have proven to be a much-appreciated way to train calibration operators.

"For lower temperatures and modest accuracy requirements within ± 0.1 °C it is relatively easy to create a calibration station yourself with a block furnace or simple water



Pentronic offers training in calibration and measurement uncertainty assessment. The practice sessions are greatly appreciated.

bath," Jonas continues. "If you want to achieve accuracies of ± 0.01 °C it is immediately more difficult to do correct calibrations. Even if the water bath is specified for stability within ± 0.01 °C there are many treacherous error sources to include in the uncertainty calculations and that requires expertise in this field."

Like all technology, calibration equipment has developed since then. One current example is calibration furnaces and mini baths, which have become easier to use, have improved performance and cover a significantly broader temperature range than before.

The world's first

One example is Isis from Isotech*. It is the world's first block calibrator that can handle temperatures down to -100 °C. Previously this was only possible with sophisticated liquid baths. It is a dry process without expensive or harmful chemicals and has a patent pending. "With this new technology there is reason to again consider what is the best solution – to train your own employees and do the calibration in house or to purchase the service from an outside source," Jonas concludes. "Conditions now are different than they were just a few years ago."

* See: <http://goo.gl/ZEDTsc> 