New concept of mySCal® digital calibration certificates

Digitization of calibration certificates with QR codes and electronic signatures

Key words:
digital calibration certificates, QR code, electronic signature, digitization, mySCal® software

SUMMARY

In this Application Note, we have described various parts of the calibration certificate generated in the mySCal® software. Get a more detailed insight into why we have decided for completely digital calibration certificates, electronic signatures and QR codes in laboratory work.

Introduction

During the long-term work of the Sartorius Croatia calibration laboratory, we have noticed an increasing need for digitalization of our services, especially in terms of documentation. This initiative was primarily intended for better organization of the internal laboratory by reducing paper documentation in our laboratory, but also to make it easier for users in the future to **manage and exchange documents on a daily basis.**

For this reason, we have fully digitized calibration certificates, implemented an **electronic signature** with the aim of increasing the authenticity of documents and a **QR code** for faster access to information about measuring instruments and the history of calibration.

With the latest technology, we have ensured complete control and traceability of calibration services and records of measuring instruments within the myScal® software, which brings many benefits to calibration laboratories and their users. This advanced feature has provided more detailed real-time data insight and improved the credibility and security of documents, with minimal risk of possible modifications.

The importance of digital calibration certificates in laboratory work

Application Note

The concept of digitalization of documentation and business is one of the most popular topics nowadays. If we talk about laboratory business, calibration procedures and results are still often associated with paper documents and manual transcription, which ultimately results in a **lack of connectivity to information systems and automation of calibration procedures.** Thinking about new digital trends in laboratory business, prompted us to develop solutions that will maintain the competitiveness of laboratories, minimize paperwork and data transcription.

In order to adapt to modern trends and technology requirements, we have developed a new concept of calibration certificates for calibration laboratories - in fully digital form, with a QR code and electronic signature. The use of digital calibration certificates not only facilitates the storage, exchange and retrieval of documents, but also brings a **complete transformation of the business model,** while providing new value-added opportunities.

To make sure of the functionality of this digital concept, we have listed a few basic **benefits of using digital calibration certificates** for calibration laboratories and its users.

1. More credible documentation management

Electronic calibration certificates are easily saved and downloaded in the myScal® application and can be quickly forwarded via e-mail to users, meeting their needs for faster communication, secure storage and document exchange.

2. Cost reduction and paperless business

Generating digital certificates significantly reduces the cost of purchasing paper, printing, and stamps. Also, it contributes to **business optimization, better organization and increased environmentally responsible business,** with minimal use of paper documents in the laboratory.

3. Personalized approach for each user

Each calibration certificate contains a QR code that is unique for each measuring instrument that has been calibrated. A particular advantage of QR codes on calibration certificates and labels is that they **minimize the risk of manipulation of test results and calibration data.**

4. Data availability with just one click

Scanning the QR code on the certificate is possible with any QR code scanning application available on your mobile device. After scanning the QR code printed on the certificate, the end user is redirected to the URL of the myScal® application website. Although some laboratories have still not taken over fully digital business, we have made it possible for each calibration certificate to be downloaded in PDF format and printed out as needed. Any user who wants to check the authenticity can scan the QR code and view the details in the program database.

Basic parts of the certificate generated in the myScal® software

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Each calibration certificate generated in the myScal® software contains the basic parts and segments described below.

1. Certificate header

- **company logo –** is located in the upper left corner, which leaves space on the right side of the document for the logo of the laboratory accreditation body. The size of the accreditation body logo is proportional to the size of the company logo, in order to give equal importance to accreditation and corporate responsibility.
- **location and name of the laboratory –** is located just below the company logo so that it is immediately noticeable and so that customers can immediately determine which laboratory performed the calibration service.

2. QR code

Below the logo and the location of the laboratory, you can see title “Calibration Certificate”, while on the right side there is the number of the calibration mark. Below the calibration mark on the right is a QR code (two-dimensional barcode) that is very easy to read from a device, like a cell phone camera. By scanning the QR code, the **“Equipment Card”** opens in the myScal®, where the user can see more detailed information about the measuring device and its calibration history.

The equipment card consists of:

- **basic data** – in this category the manufacturer, instrument model, serial number and internal markings are entered.
- **owner information** – name, adress, city and country
- **calibration intervals** – in months
- **a photo of the device** for easier identification of the measuring instrument
- the corresponding **QR code** that matches the code indicated on the calibration certificate
- **calibration reviews, preventive checks, services or documents** (such as user instructions).

3. Measuring instrument information

The section below the header describes the data of the measuring instrument. At this point, **the measuring instrument was identified using a series of basic information:**

1. calibration object (balances, pipettes or weights)
2. manufacturer (the software supports the entry of different manufacturers)
3. equipment type (model)
4. factory number
5. identification number
6. client.

4. Internal calibration evidence

For the purpose of internal recording and traceability of equipment in the software, in the last section, the following are listed: **receipt number** (receipt of instruments), **calibration date** (date format selected to be internationally recognizable) and **calibration location** (name of calibration laboratory location or calibration location on customer request).

5. Certificate footer

There is a signature area at the bottom of the document. It indicates **the stamp of the laboratory, the date and signature of the head of the laboratory and the metrologist** who take responsibility for the content of the certificate.

myScal® has retained the identity of the metrologist in the laboratory management system, in case of certain calibration questions or clarifications. Each calibration certificate is electronically signed, ensuring complete security in data integrity.

The calibration certificate template is multilingual and created in Excel. It can be edited according to user needs. After the changes, the template is imported into the myScal® software and generated according to the latest changes.

6. Calibration methods, standards and results

Other pages of the calibration certificate contain:

- data of the measuring instrument (device name, serial number, certificate number, calibration date)
- calibration methods and procedures (describe performed methods and standards used during calibration)
- environmental conditions (average values)
- measurement results
- measurement uncertainty
- notes (additional information or records of the metrologist).

Conclusion

With the development of a new calibration certificate concept, we are completely confident that many users will benefit from the day-to-day laboratory business.

In addition to easier exchange of calibration results, digital certificates generated in the myScal® software will allow customers faster access and analysis of results, reduction of human error when manually transcribing data, better organization of resources and preparation for audit.

We care about the results of our customers, so we always strive to listen to their needs and suggestions in order to deliver better, simpler and more transparent calibration certificates.

Sartorius Croatia is the owner of the myScal® brand and registered trademark. The company has been operating for many years as an accredited calibration laboratory and a reliable partner in providing high-tech solutions for calibration laboratories.

For more information, visit www.myscal.com
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